THE UNIVERSITY OF ALBERTA

THE RELATIONSHIP OF CERTAIN TEACHER CHARACTERISTICS TO PUPIL ACHIEVEMENT IN READING

by

DOROTHY FERN TETLEY

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "The Relationship of Certain Teacher Characteristics to Pupil Achievement in Reading" submitted by Dorothy Fern Tetley in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT OF THESIS

The purpose of this study was to investigate the effects of certain objective teacher characteristics on pupil achievement in reading in Grades IV, V, and VI, with a view to providing guidance in the selection of elementary teachers. The study was not experimental, but rather an investigation of teacher characteristics and pupil reading results in a small urban centre under typical conditions. Data on both teachers and pupils were gathered from school records of previous years.

The teacher characteristics investigated were: (1) number of years of professional training, (2) specialization in the field of reading, (3) number of years of teaching experience, (4) sex, and (5) age.

Analysis of covariance was applied to the reading scores used as criteria of teacher effectiveness, and these scores were adjusted for both pupil intelligence and previous reading achievement.

Although findings related to teacher training were non-significant, a tendency for teachers with greater training to be more effective in inducing pupil achievement in reading was apparent. In the analysis of effectiveness of extra training in the teaching of reading, results favored significantly teachers with such training over those without it.

Two to four years of teaching experience were found to be significantly effective in teaching reading at the Grade V level,

while five to ten years' experience was significantly superior for Grade IV teachers. In Grades IV and VI, teacher experience over ten years resulted in lower pupil achievement in reading.

Female teachers of Grade IV were found to be significantly superior to males; there was no significant difference in Grade V; but male teachers were superior at the Grade VI level.

The differences in effects of teacher age on pupil reading achievement proved to be non-significant, although one noticeable trend was the lowering of pupil achievement in Grade VI in relation to increasing teacher age.

This study has given some guidance as to the relative importance of several teacher characteristics in influencing pupil achievement in reading. Length of training appears to be less significant than type and recency of training. Effects of teacher sex seem to disappear with increasing maturity of pupils in the highest elementary grades. The lessening of effectiveness with age and lengthy experience is an important fact to be remembered by teacher selectors and by other administrators. Periodic refresher courses and inservice training programs appear to be essential if effectiveness in teaching reading is to be maintained. The most significant single characteristic was specialization, a finding which indicates that success in teaching reading is dependent upon extent of training in that field.

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CHAPTER I

I. INTRODUCTION TO THE PROBLEM

Probably the primary function of high-ranking school officials, usually superintendents, is the selection and placement of teachers in such a way as to provide the best possible results, in terms of achievement, among the pupils of their individual school systems. Teacher selection depends largely on the individual selector's concept of the characteristics upon which a teacher's effectiveness are most likely to be based. Although he may realize that personality and attitudes may have a strong influence upon an individual teacher's success or failure, in practical terms the selector generally forms his first impression of a prospective teacher by a perusal of that teacher's objective qualifications or characteristics presented in written form. This study will, therefore, be concerned with examining the effectiveness of teachers, as measured by their pupils' achievement, in terms of the objective characteristics which generally produce first impressions in prospective teacher employers.

Research into the effects of teacher characteristics upon student achievement has largely been limited to the junior and senior high school levels. This has been, at

least in part, because secondary teachers usually specialize in one or two subject areas, while elementary teachers, almost by definition, are generalists. In addition, qualifications of elementary teachers have been more subject to variation. In Alberta, elementary teachers' qualifications range from one year of Normal School training (taken as long ago as 40 years) to four or more years of recent University training. Furthermore, many teachers of elementary grades have not been trained in elementary but in secondary methods and content, hence have not been prepared for the type of teaching situation with which they are expected to cope. Still further, the trend in Alberta school systems has been to appoint elementary school administrators, most of whom have teaching duties, from the ranks of secondary teachers. This may have been because a somewhat longer period of training is general among secondary teachers, but it has also been due to the fact that most school systems have a predisposition toward male administrators and, in order to obtain them, have been forced to look to secondary schools. Comparatively few males are to be found in Alberta's elementary schools, except in administrative positions.

Because of the emphasis placed on specialization and departmentalization at secondary levels, it has been a

fairly simple matter to compare student achievement in specific subjects to teachers' qualifications in those areas. Secondary specialists, by definition, have specific training in specific subjects through concentration in those areas during their teacher training. In addition, external (i.e. provincial) examinations in Grades IX and XII have provided useful measures of student achievement for comparison with teacher qualifications.

The problem is not quite so simple at the elementary level, first, because of the lack of specialization of elementary teachers and, secondly, because of the lack of provincial examinations at this level. Whatever "standardized" tests are used to measure pupil achievement depends upon individual schools or systems. For the latter reason, no true comparison on a province-wide basis is possible at elementary levels.

The major purpose of the elementary school is generally considered to be the development and perfection, to some degree, of the basic skills upon which further learning throughout future school and adult years can be built. It is generally agreed that the most basic skill which the elementary school is expected to develop is reading.

II. PURPOSE OF THE STUDY

It is the purpose of this study to examine some of the objective characteristics of elementary teachers in the light of results achieved by their pupils in the area of reading. It is the further purpose of the study to make this examination in a typical, existing situation. That is to say, the study is not experimental, but simply an examination of teachers involved and reading results achieved by their pupils in a typical school system, under ordinary circumstances, according to records kept by the system.

No attempt was made to control any factors, nor to match populations, either teacher or student, and teachers were completely unaware that such a study would ever occur.

Division Two, i.e. grades four to six inclusive, was selected for study for the following reasons:

a) The emphasis which is placed on basic reading skills in the primary grades shifts to more complex skills in Division II;

b) There is reason to believe that instruction in the more complex reading skills tends to be neglected at the upper elementary level;

c) Primary teachers are generally elementary-trained, while most of the secondary-trained teachers in

elementary positions are to be found in Division II;

d) The reading tests employed in Division II of the centre under study were different forms of the same test (that is, three forms used in consecutive years), hence reliability of comparisons is higher than might be expected in the use of different tests.

III. THE PROBLEM

The problem in this study involved choosing the most common characteristics considered in teacher selection. After examining a few typical teacher application forms, the following characteristics were originally selected for study: (1) amount of training, (2) type of training (secondary or elementary), (3) total teaching experience, (4) elementary teaching experience, (5) age, and (6) sex. Because the criterion for effectiveness in this study was to be pupil achievement in reading, one further characteristic was added, viz., amount of specialization of the teacher in the field of reading, or, to put it more plainly, the number of reading courses (beyond introductory courses offered in the first year of training) included in the teacher's training.

For reasons explained later, in Chapter III, the seven teacher characteristics to be studied were reduced to five in the final planning, prior to analysis of the data.

The problem investigated by the study was, then, a comparison of pupils' achievement in reading according to the following characteristics of their teachers:

a) number of years of training beyond Grade XII;
b) reading courses taken during teacher training (excluding first-year introductory courses);
c) total number of years of teaching experience;
d) sex; and
e) age.

IV. NEED FOR THE STUDY

The importance of the elementary school in the overall education of our young people has recently been given increasing emphasis. Bloom (1956) has shown that increased expenditure on elementary education has at least as great an effect on improvement of quality of total education as increased expenditure at the secondary level. Cheal (1963) has recently revealed that the qualifications of elementary teachers have a greater effect on the holding power of Canadian schools than qualifications of secondary teachers.

In the light of these findings, it seems obvious that definitive studies are needed to give further guidance to the educational field in teacher training, selection, and placement. The dearth of positive evidence in the past has frequently led to practices of teacher placement in direct opposition to the considered judgment of many professional educators.

In the specific field of reading, the 1961 study by the Harvard University Graduate School of Education showed the general inadequacy of elementary teacher preparation for the teaching of reading. If this is the case, and it seems abundantly clear that it is, then what of the preparation of secondary teachers of elementary grades? Further, if this is the case in the United States, where elementary teachers require at least four years of training, what of the situation in Alberta, where minimum qualifications are much lower? Clearly, we are in need of answers to many questions if there is to be conscious effort toward improvement of elementary instruction in general and reading instruction in particular. Careful teacher selection and placement is one important means by which improvement may be achieved within each individual school system.

V. HYPOTHESES

In the consideration of objective teacher characteristics and their possible effects upon pupil achievement, the following research hypotheses were formulated on the basis of common logic:

1. Teachers having more extensive teacher training induce greater pupil achievement in reading than do those with minimum training.
2. Those teachers having taken reading courses beyond the first introductory course induce greater reading achievement in their pupils.
3. Those teachers having greater teaching experience induce greater reading achievement than teachers with little experience.

Null Hypotheses

The null hypotheses upon which the analysis was based are as follows:

1. There is no significant difference in the degree to which differing amounts of teacher training are effective in inducing pupil achievement in reading.
2. Additional courses in reading will not improve teacher effectiveness as measured by pupil achievement in reading.

3. There is no significant difference in the degree to which differing amounts of teaching experience are effective in inducing pupil achievement in reading.
4. Teacher sex does not significantly affect pupil achievement in reading.
5. Teacher age does not significantly affect pupil achievement in reading.

VI. ASSUMPTIONS

As the data collected for the study originated in past school records, certain assumptions regarding the population had to be made, as follows:

1. That the distribution of student population in the study is normal.
2. That assignments of pupils to teachers varying in the characteristics under study were random.
3. That pupil records not used by reason of incompleteness were randomly distributed.

VII. LIMITATIONS OF THE STUDY

The following limitations were considered in the planning of the study:

1. The size of the centre under study may be a somewhat limiting factor, in that both teacher and student

populations are comparatively small.

2. Categories of teacher characteristics were set arbitrarily, as dictated by the apparent needs of the study.
3. The numbers of pupils in the various sub-groups within teacher categories vary considerably and are therefore not directly comparable apart from the controls exercised in the analysis.

CHAPTER II

REVIEW OF THE LITERATURE

It is generally agreed that the most important single factor in the implementation of a successful educational program is the effectiveness of the individual classroom teacher. Because of this general agreement, studies into characteristics which contribute to a teacher's effectiveness have been carried out in a fairly continuous stream since before the turn of the century. Despite the mass of evidence, however, so much of it is inconclusive or contradictory that little practical guidance has been offered to school officials who are constantly faced with the problem of selecting and placing teachers in such a manner as to produce the best possible results in their individual school systems.

Although the whole question of evaluation of teacher effectiveness is involved in many other administrative practices such as recommendation for certification, promotion, tenure, dismissal, adjustment of teacher-training programs, inservice training, and merit-rating which affects remuneration, the chief concern of this study is with a school system's original selection and placement of a teacher, and the objective characteristics which are most

likely to impress the superintendent, personnel officer, or selection committee. These characteristics are likely to be such factors as amount of training, specialization, age, experience, and sex - factors which lead to immediate rejection or, possibly, a request for an interview or an immediate offer of a position.

Much of the research into teacher effectiveness has been concerned with teacher intelligence, personality, and behavior in the classroom, but results have been inconclusive not only because these factors are so intangible but also because effectiveness, apparently dependent on these factors, has differed markedly in different teaching situations at different times.

Beecher (1949) describes both a ten-year study at the University of Wisconsin which indicated that teacher intelligence was the most important single "conditioning" factor in teacher success, and a later follow-up study which produced a small negative correlation between teacher intelligence and success. Morsh _et al_ (1956) found "little relationship" between student gains and instructor intelligence in a study involving training of U.S. Air Force technicians.

In attempting to determine by "objective techniques" the importance of a personality trait often mentioned in

literature as necessary to success in teaching - understanding or, as it was called in the study, mental objectivity - Dugan (1961) found no significant correlation between that trait and effectiveness in 185 teachers. She concluded that perhaps no one personality factor would ever be found to be predictive of teaching success, but rather "most likely, the answer .. will be in the discovery of certain patterns of personality factors coupled with certain professional factors that best suit a teacher for a specific teaching job." (Dugan, 1961, p. 337) The search for "patterns of personality factors" goes on.

Teacher behavior in the classroom has been the subject of much study since the report of the Committee on the Criteria of Teacher Effectiveness (Barr _et al_, 1952). The report recommended teacher behavior as an important intermediate factor in the investigation of relationships between teacher characteristics and the "ultimate" criterion, pupil growth and achievement. Despite recent attempts through detailed and usually lengthy questionnaires designed to measure behavior objectively, it would appear that such attempts remain subject to the same fallibility that has been shown to have rendered useless most ratings of teacher effectiveness, that is, the fallibility of individual judgment.

Medley and Mitzel (1959) list eight studies, besides their own, which showed that supervisory ratings of teacher effectiveness and measures of pupil achievement have "little in common." Perhaps the problem here lies in just what is considered by supervisors or other observers to be effective teaching. Medley and Mitzel found that ratings reflect the emotional climate of the class rather than how much pupils are learning. Their study found no evidence to support the assumption that there is a relationship between classroom behavior of teachers and pupil growth. They state:

> "If there are uniform ways in which teachers and pupils behave whenever the pupils are growing in reading skill, they are not readily apparent to reasonably sophisticated classroom visitors. Raters of teacher effectiveness must seek subtler cues than these. There is no indication here of what these cues may be." (Medley and Mitzel, 1959, p. 244)

I. STUDIES USING PUPIL GROWTH OR ACHIEVEMENT AS THE CRITERION OF TEACHER EFFECTIVENESS

Although only comparatively recently pupil growth or achievement has been recognized as "the only valid, objective criterion" of teacher effectiveness (Burton and Brueckner, 1955), others having been (besides supervisory ratings) peer evaluation, self-evaluation, and even pupil evaluation, many studies during the past half-century

have attempted to relate certain objective teacher characteristics to pupil achievement. Such studies have a bearing on the present one.

Certain assumptions must be made in using pupil growth or achievement as the criterion of teacher effectiveness. We must assume, first, that adequate measures of growth or achievement are available and, second, that factors other than teacher effectiveness which may affect performance are either controlled or randomized.

A fault of many of the studies in this area is that previous achievement has not been controlled. In other words, even though pupil intelligence may have been taken into consideration, the teachers whose effectiveness was being measured were given credit for achievement which may have been the cumulative result of a number of years of effective teaching by other teachers or, what is equally possible, pupil achievement may previously have been so poor as to have been impossible for one teacher, no matter how effective, to have brought about much improvement during the limited time under study. Early studies subject to this decided limitation are those of Hughes (1925), Bergman (1929), and Davis (1933). Possibly as a result, overall evidence from these studies sheds little light on the effects of teacher training, experience,

and specialization on pupil achievement. Even the more conclusive evidence found much later by studies such as those of Lindstedt (1960), Wasylyk (1961), and Eddy (1962) must be held somewhat suspect because these authors also failed to consider previous achievement of pupils in their investigations of teacher characteristics related to effectiveness. These studies will be discussed in more detail later in this chapter.

In 1924, Rogers (cited in Walker, 1935) found that reading comprehension scores of 166 classes of Grade III, IV, and V pupils were "in general" related to the amount of their teachers' training. Hughes (1925) found that pupils of teachers who had majored in physics achieved higher mean scores in that subject than pupils of teachers who had not specialized in physics. Bergman (1929), however, in a study of 14,000 Michigan pupils writing state examinations, found that teacher training had no appreciable influence on pupils' general achievement. Davis (1933) found that, except in chemistry, pupils of teachers with no specialized training in subjects taught achieved higher scores than pupils of teachers with specialized training. Stephens and Lichenstein (1946), in a study of Baltimore teachers and Grade V pupils, found that pupil growth in arithmetic correlated negatively with teachers'

knowledge of the subject. Schunert (1948), in a carefully controlled study of Minnesota high schools, found no significant relationship between algebra and geometry achievement of students and the number of mathematics courses taken by their teachers at college.

A study by McCall and Krause in 1959, which did consider previous achievement but which attempted to measure "all-round growth" in a weighted combination of nine areas, found that training had a correlation of only .13 with growth. They found further that teachers' knowledge of subject matter showed a small negative correlation with pupil growth. It would appear that effectiveness of training and specialization must be considered in separate subject fields and, further, that certain fields are more dependent on these factors than others.

Most of the above-mentioned studies also considered the relationship of teacher experience with pupil achievement, with the same inconclusive results. Rogers (1924) found a positive relationship between pupil reading comprehension scores and teacher experience up to eight or nine years; Bergman (1929) found no appreciable relationship between pupil achievement and teacher experience; Schunert (1948) found that pupils of teachers with over

eight years of experience achieved significantly higher mathematics scores than those of teachers with less experience; and Rolfe (1945) found a negative correlation between teacher experience and pupil achievement in citizenship.

Studies of teacher age and sex have usually been similarly inconclusive. In an early study, Bathurst (1929) found that efficiency of elementary teachers (as measured by ratings) decreased slightly with age. Rolfe (1945) found no significant relationship between teacher age and pupil achievement in citizenship. Brookover (1945) found that high school student gains in history increased with teacher age up to thirty-eight years, after which a decrease was evident. He found that the most effective age-range was twenty-six to thirty-eight years. Johnson's (1955) study revealed no significant relationship between teacher age and effectiveness.

Teacher sex has been studied very little in direct connection with teacher effectiveness but Barr (1961), in summarizing investigations, states that implications are that there are no differences in terms of girls' or boys' achievement, grade levels, or subject areas. One study, by Cheydleur (1946), showed that women instructors of college French were slightly superior to men.

II. THE MEDLEY - MITZEL STUDY

A study interesting in that it employed the same method of analysis as was used in the present study (analysis of covariance) as well as the same criterion of teacher effectiveness was that by Medley and Mitzel in 1959. The study investigated forty-nine beginning teachers in New York in Grades III to VI, inclusive. Five variables, including adjusted reading growth, were employed to measure aspects of teacher effectiveness, the others being group problem-solving skills, pupil-teacher rapport, teachers' self-ratings, and principals' ratings. The main problem was an attempt to relate "dimensions of classroom behavior" to the various measures of effectiveness. Although this problem was very different from the investigation of objective teacher characteristics of the present study, some of the findings and suggestions are pertinent:

1. The authors found that measured growth of pupils in reading ability (the pupils were tested on equivalent forms of the <u>California Elementary Reading Test</u> at the beginning and the end of the year) based on raw score increments showed little relationship to any of the three dimensions of behavior, but seemed to depend only on the grade level in question. They found a "tendency

for reading growth to increase" and that "the generalized maturational factor outweighs other factors in the elementary school" (Medley and Mitzel, 1959, p. 243) and recommended that future investigators consider only one grade at a time in order to control this factor.

2. The study showed that the only valid criteria of effectiveness were measures of pupil growth. Principals' ratings and pupil-teacher rapport reflected classroom atmosphere or the teacher's ability to get along with children rather than effectiveness in stimulating pupil learning. Strangely enough, the beginning teachers in the study were able to rate themselves in terms of pupil growth more efficiently than the principals were able to rate them.
3. Neither measured gains in reading nor gains in group problem-solving skill were found to be related to recorded classroom behavior of teachers and pupils, even though behavior was rated by six experienced observers under carefully controlled conditions and the results were subjected to factor analysis.

III. ALBERTA STUDIES

Three Alberta studies have investigated relation-

ships between selected teacher characteristics and pupil achievement in certain subject areas as measured by provincial departmental examinations in Grades IX and XII.

In a study of selected Grade IX mathematics teachers, Lindstedt (1960) found significant relationships between pupil achievement in mathematics and (a) teacher training over four years, and (b) subject-field preference. Results of the investigation of teacher experience were inconclusive. Teachers with more than ten years' experience were found to be significantly more effective than those with only one year's experience, though the difference was not significant in comparison with results obtained by teachers with two to ten years of experience. Lindstedt found no significant relationship between teachers' mathematical backgrounds and student achievement.

Wasylyk (1961), in a rather more comprehensive study of Grade XII mathematics teachers, found significant positive correlations between teacher competence (as measured by the results of the Mathematics 30 examination of 1958) and each of four teacher characteristics: (1) length of academic and professional training beyond Grade XII, (2) number of university-level courses in mathematics, (3) length of teaching experience, and (4) subject-field preference for teaching. He concluded

further that the first three of these characteristics do not function separately but that increases in any two of them result in increases in competence.

In 1962, Eddy reported the results of a study of Grade IX teachers of social studies. His findings included significant positive relationships between student achievement in social studies and the following teacher characteristics: (1) number of years of academic and professional training, (2) number of university-level courses in social studies, (3) number of years of teaching experience, and (4) subject-field preference. He also found a significant interaction between amount of training and length of teacher experience. There was no significant relationship between pupil achievement and teacher sex or age.

All three of the studies mentioned above were based on teacher information gathered for The Alberta Royal Commission on Education in 1958. They were similar in design and subject to certain limitations. None of the three considered the effects of previous pupil achievement on the results of the examinations used as criteria of effectiveness, and Lindstedt failed also to consider the effects of pupil intelligence. Nonetheless, the similarity of their findings provides some evidence on which selection of secondary school mathematics and social studies teachers

may be based.

A recent attempt to resolve some of the problems of teacher evaluation was that by Anderson and Hunka (1963) of the University of Alberta. Their chief concern was with the problem of improving reliability of evaluator's ratings of teacher effectiveness, especially in connection with ratings of student teachers, whose future careers are dependent upon evaluations by supposedly qualified observers of their behavior in practice-teaching situations. The authors proposed a conceptual framework within which one large source of variation in evaluation, that of evaluators themselves, might be investigated. The ultimate goal is, of course, the eventual control of such variability.

Another recent study by a University of Alberta professor was that of Cheal (1963), mentioned previously in Chapter I. Cheal's was a comprehensive investigation of Canada's provincial school systems, the findings of which indicate that achievement, in terms of pupil retention or years of school, is directly related to investment in education. Among many findings of importance to educators in connection with effectiveness of school systems were two of particular relevance to the present study. First, the significantly high correlation found to exist between pupil retention in secondary schools and qualifications of

elementary teachers caused the author to conclude

> "Those provinces giving the greatest attention to the quality of their elementary teachers would seem to be receiving the greatest returns for their investment." (Cheal, 1963, p. 66)

Secondly, with the exception of one province, the pattern of elementary teachers' experience was found to parallel the pupil-retention pattern more closely than the pattern of experience of secondary teachers.

Both of these findings indicate the importance of careful selection of elementary teachers.

IV. SUMMARY

The studies reviewed reveal some of the difficulties involved in attempts to measure teacher effectiveness. Two points, in particular, seem clear if results of research are to be of practical assistance. First, criteria should be as free of subjective judgment as possible. Ratings, dependent upon biases of many kinds, have been shown to be unreliable in measuring teacher efficiency. The most objective criterion appears to be pupil growth or achievement. Secondly, investigations of personality or behavior appear, at present, to be not only unreliable but also somewhat impractical in terms of the use that can be made of their evidence in teacher selection. Guidance in terms

of objective qualifications or characteristics would appear to be the requisite in original selections of teachers for specific teaching jobs.

CHAPTER III

THE EXPERIMENTAL DESIGN

This chapter will discuss the collection of data, the tests employed in the study, and the treatment and analysis of the data.

The sources of data were the public school records (for both pupils and teachers) of a small urban community in Alberta.

Restrictions on the years chosen for the study were imposed by the necessity of using, as far as possible, the results of the same tests for each grade level and the fact that changes in the school system's choice of standardized reading tests affected the years both preceding and following those under study.

I. THE POPULATION

Teacher Population. All Division Two teachers in the school system were used for the following years:

Grade IV - 1960, 1961, and 1962;
Grade V - 1961 and 1962;
Grade VI - 1962.

Pupil Population. The pupil population consisted of all pupils of Division Two teachers during the years mentioned above for whom records were complete in the following

respects:

(a) Grade III standardized reading score, for use as a covariate to control effects of previous reading achievement;

(b) Grade IV group intelligence rating, for use as a covariate to control effects of pupil intelligence;

(c) Grade IV standardized reading score, for use as either a criterion variable (in the case of a Grade IV pupil) or a covariate to control effects of previous reading achievement (in the case of a Grade V or VI pupil);

(d) Grade V standardized reading score, for use as either a criterion variable (in the case of a Grade V pupil) or a covariate (in the case of a Grade VI pupil); and

(e) Grade VI standardized reading, for use as a criterion variable in the case of a Grade VI pupil.

II. CATEGORIES OF TEACHER CHARACTERISTICS

In the original design for the study, categories of teacher characteristics were set up according to examples laid down by earlier studies as well as what were considered

to be the particular needs of this study. Following the collection of data, it was necessary to revise some of the categories and, in fact, to omit two of the original ones. The necessity arose because of the limited number of teachers involved and the fact that certain of the categories simply did not exist in the teacher population under study. For example, it was found to be almost impossible to differentiate between elementary- and secondary-trained teachers (original Category II) because, while eight of the teachers had proceeded to secondary training after the first year, that first year, in the case of six of them, had consisted of the standard "Normal School" or Junior Elementary program which was offered to all persons proceeding to teaching after one year's training.

The original four classifications under Reading Courses (Category III) had to be reduced to two because it was found that none of the teachers in the study had taken more than one reading course beyond the first year of training.

Category V, elementary teaching experience, was omitted entirely when it was found that this category differed only very slightly from that of total experience among the teachers in the study. In addition, this category was difficult to pin-point because so many of the

teachers had taught in multi-grade classrooms containing both elementary and secondary grades.

All categories, however, were settled before any of the data was processed.

The following are the categories originally set up and those finally decided upon:

Category I - Years of Training Beyond Grade XII

Original:

(a) one and any fraction of the second year,
(b) two and any fraction of the third,
(c) three and any fraction of the fourth,
(d) four or more.

Final:

(a) one and any fraction of the second year,
(b) two and any fraction of the third,
(c) three or more.

Category II - Type of Training

Original:

(a) secondary,
(b) elementary.

Final:

This category was omitted entirely.

Category III - Number of Reading Courses beyond First Year

Original:

(a) zero,
(b) one,
(c) two,
(d) three or more.

Final:

(a) zero,
(b) one or more.

This category became Category II.

Category IV - Total Teaching Experience

Original:

(a) 0 - 1 year,
(b) 2 - 4 years,
(c) 5 - 10 years,
(d) over 10 years.

Final: Unchanged

This category became Category III.

Category V - Elementary Teaching Experience

Original:

(a) 0 - 1 year,
(b) 2 - 4 years,
(c) 5 - 10 years,
(d) over 10 years.

Final:

This category was omitted entirely.

Category VI - Sex

Original:

(a) male,

(b) female.

Final: Unchanged

This category became Category IV.

Category VII - Age

Original:

(a) 18 - 24 years,

(b) 25 - 34 years,

(c) 35 - 49 years,

(d) 50 years and over.

Final: Unchanged

This category became Category V.

III. THE TESTING INSTRUMENTS

Tests providing Grade III reading scores, used as covariates controlling effects of previous achievement, were The Gates Basic Reading Tests, Types GS and ND, and The California Reading Test, Upper Elementary, 1957 Edition.

The Nelson Silent Reading Test was used as a

measure of reading achievement in Grades IV, V, and VI, raw scores being used as criterion variables and/or covariates to control effects of previous achievement.

A. Reading Tests

The standardized reading tests used in the determination of reading achievement were simply those being used in the years 1959 to 1962 inclusive by the school system under study in this instance. The tests were administered in the first week of June in each of the years involved. A brief description of each of the tests follows.

(1) The Gates Basic Reading Tests, Types GS and ND

In the year 1959 only, that is, the year in which the Grade VI pupils of this study were in Grade III, the school system employed two types of the new (1958) Gates Basic Reading Tests as a measure of reading achievement for Grade III.

The types used were GS, Reading to Appreciate General Significance, and ND, Reading to Note Details. Both types were designed to measure both speed and accuracy in reading paragraphs of fairly uniform difficulty.

Unfortunately for the purposes of the present study, the Basic Tests were designed for use with Grades

III (upper level) to VIII inclusive and, further, five tests in all were intended to be used as a comprehensive reading battery. Needless to say, both the fact that the Grade III scores were at the low end of the scale and the fact that only two of five intended tests were employed make the 1959 reading scores for Grade III somewhat less reliable than might have been desired. However, reliability coefficients for the two types used were given as .82 and .84 in the manual. Dunn, in his evaluation of the tests in The Fifth Mental Measurements Yearbook (Buros, 1959, p. 632) considers the tests to be reasonably effective for the grade range intended.

(2) California Reading Test, Upper Elementary, 1957 Edition

Part of the California Achievement Battery, the Reading Test consists of two main parts - Reading Vocabulary and Reading Comprehension. The forty-five items in the first part test word recognition and the meaning of opposites. The second part is divided into three sections - following directions, reference skills, and interpretation of material. Reliability coefficients are listed as .88 for Vocabulary, .87 for Comprehension, and .93 for the total reading score. This test, designed for use with Grade III and Lower Grade IV, was used in

Grade III in the centre under study in the years 1960 and 1961.

Although the 1957 edition has not yet been reviewed by Buros, the 1950 edition was described by Flanagan (Buros, 1954, p. 530) thus:

> "... it is this reviewer's opinion that (an examiner) will find the California Reading Test a valuable tool in appraising the progress of pupils with respect to (the) important skills of vocabulary and reading comprehension."

(3) The Nelson Silent Reading Test, Forms A, B, and C

This test, used in Grades IV, V, and VI for the entire period under study, is described as follows (in part) in McCullough's review in The Third Mental Measurements Yearbook:

> "This test consists of a 10-minute vocabulary test of 100 words from the Thorndike and Horn lists, and a 20-minute, 25-paragraph test of three types of comprehension: general significance, details, and prediction of outcomes. Correlations with other tests have run around .8. Reliability coefficients on scores for different forms of the test have been around .9." (Buros, 1949, p. 492)

> "This is not a test of the pupil's ability to read science and social-study textbooks. It is a test of general vocabulary and of major types of comprehension in the reading of story material. It is one of the best available." (Buros, 1949, p. 493)

B. Intelligence Test

The Otis Quick-Scoring Test of Mental Ability: Alpha was used as the measure of pupil intelligence in the study.

Selection of results of this test was made for two reasons, namely:

(a) this test, in alternate forms A and B, is administered in the school system concerned within the first three months of Grade IV, which is the first grade under actual study; and

(b) results of this test have the highest correlation (.851 on the basis of 48 cases in 1962) with results of the Wechsler Intelligence Scale for Children of the three group intelligence tests regularly administered to pupils in the elementary grades in the centre under study.

The test consists of ninety items which are used for both "non-verbal" and "verbal" testing of the mental ability of pupils of Grades I to IV. The non-verbal section, which takes twenty minutes, is so called because only initial instructions are given before the child selects the one of four objects, in as many of the items as he can manage within the time limit, which does not belong with the other three.

In the verbal section, each item requires individual verbal instructions, and the child is given five seconds in which to mark the object indicated for each item.

Reliability coefficients, based on Grade II and III

pupils, are given as .68 for the non-verbal part, .71 for the verbal, and .81 for the total. Kuder, in The Third Mental Measurements Yearbook, says this about the test:

> "... the reliability appears acceptable for group prediction or appraisal. The reliability compares favorably with other nonlanguage tests for about the same grade range." (Buros, 1949, p. 250)

IV. PROCEDURE

The school records of every pupil in Grades IV to VI between 1960 and 1962 in the centre under study were examined, and each pupil whose record was complete was included in this study.

Because the concern here is for Division Two, a limit on the years selected for study was imposed by the need for using the same testing instruments from year to year in order to make valid comparisons. (As was mentioned earlier in this chapter, some difficulty arose with the Grade III scores available for use as covariates of previous reading achievement, with the result that scores from two different tests had to be used.) The years before 1960 were ruled out because Grade III records before 1959 were incomplete, and the years following 1962 were eliminated because the new two-form revision of The Nelson Silent Reading Test came into use in 1963.

Complete data was gathered for the following numbers of pupils:

524 Grade IV pupils,
253 Grade V pupils, and
180 Grade VI pupils.

During the three years under study, forty-nine teachers were found to have taught the pupils concerned. (If a teacher's category sub-grouping varied from one year to the next, the teacher concerned was placed in the appropriate sub-group for each year concerned. Similarly, a teacher of a split class was considered separately for each grade level being taught at the time. Only two teachers were affected by split grades or category changes.) There were twenty-six teachers of Grade IV over the three years of the study, thirteen teachers of Grade V over two years, and ten grade VI teachers in the year 1961-62. Total numbers and percentages in each classification are given in Table I. The break-down explains the necessity for adjustment of preliminary sub-groupings within categories as well as the final omission of Category II in the Grade VI analysis. Table II includes the numbers of pupils used, along with teacher numbers, in each sub-group within each category. (The differences between these numbers indicate the necessity of using an analysis which

TABLE I

NUMBERS OF TEACHERS IN EACH OF THE TEACHER CATEGORIES FOR GRADES IV, V, AND VI

CATEGORY	GRADE IV	GRADE V	GRADE VI	TOTAL	PERCENTAGE IN SUB-GROUP
I - YEARS OF TRAINING					
One - Two	13	9	4	26	53.1%
Two - Three	10	1	3	14	28.6%
Three or More	3	3	3	9	18.3%
II - READING COURSES					
Zero	20	9	10	39	79.6%
One or More	6	4	--	10	20.4%
III - TEACHING EXPERIENCE					
Zero - One Yr.	4	1	--	5	10.2%
Two - Four Yr.	5	2	2	9	18.4%
Five - Ten Yr.	6	1	6	13	26.5%
Over Ten Years	11	9	2	22	44.9%
IV - SEX					
Male	6	3	6	15	30.6%
Female	20	10	4	34	69.4%
V - AGE					
18 - 24 Years	9	4	--	13	26.5%
25 - 34 Years	6	--	4	10	20.4%
35 - 49 Years	6	4	2	12	24.5%
50 Years & Over	5	5	4	14	28.6%

TABLE II

NUMBERS OF TEACHERS AND PUPILS IN EACH TEACHER CATEGORY AT EACH GRADE LEVEL

CATEGORY	GRADE IV		GRADE V		GRADE VI	
	Teachers	Pupils	Teachers	Pupils	Teachers	Pupils
I - YEARS OF TRAINING						
One - Two	13	207	9	174	4	87
Two - Three	10	240	1	13	3	42
Three or More	3	77	3	66	3	51
II - READING COURSES						
Zero	20	422	9	176	10	180
One or More	6	102	4	77	--	---
III - TEACHING EXPERIENCE						
Zero - One Yr.	4	110	1	26	--	---
Two - Four Yr.	5	80	2	31	2	31
Five - Ten Yr.	6	123	1	29	6	106
Over Ten Years	11	211	9	167	2	43
IV - SEX						
Male	6	119	3	59	6	91
Female	20	405	10	194	4	89
V - AGE						
18 - 24 Years	9	190	4	86	--	---
25 - 34 Years	6	133	--	---	4	58
35 - 49 Years	6	118	4	93	2	38
50 Years & Over	5	83	5	74	4	84

will tolerate great disparities.)

Pupil achievement in reading was the criterion for effectiveness in the teacher sub-groups.

Collection and Handling of the Data

Scores for each pupil were recorded as in the following examples:

(a) Grade IV pupils:

Otis Alpha I.Q.	Gr. III Reading Score	Gr. IV Rdg. Score
108	82	69
92	77	47

(b) Grade V pupils:

I.Q.	Gr. III Reading	Gr. IV Reading	Gr. V Reading
118	87	113	138
84	79	70	84

(c) Grade VI pupils:

I.Q.	Gr. III Rdg.	Gr. IV Rdg.	Gr. V Rdg.	Gr. VI Rdg.
110	47	83	112	130
85	19	51	64	78

These scores became the variables for consideration in the analysis of covariance which followed. For each of the grade levels under actual study (IV, V, and VI), each pupil's scores were classified (according to his teacher's qualifications) into the appropriate sub-group within each of the five teacher categories. Because of the differing

numbers of variables between grade levels, it was necessary to differentiate in the analysis between grades as well as teacher categories.

For Grade IV pupils, the analysis was performed on the Grade IV reading scores, which were grouped according to their teachers' category sub-groupings, and effects of both I.Q. and Grade III reading scores were taken into consideration in the analysis. That is, the Grade IV means for each sub-group were adjusted for the effects of intelligence and previous reading scores. Similarly, with Grade V pupils, the Grade V reading scores were adjusted for the effects of intelligence and previous reading achievement in both Grade III and Grade IV. In the analysis of Grade VI reading results, mean scores achieved at that level were adjusted for the effects of intelligence and previous achievement in Grades III, IV, and V.

Total raw scores were used for each of the ratings of reading achievement, while the Otis Alpha intelligence quotient was used as the rating of mental ability.

The difference between Grade III reading scores, which is evident in the examples, is explained by the use of results of two different tests. The Grade VI pupils who were used in the study were given the _Gates Basic Tests_ in Grade III, while the Grade IV and V pupils took the

California test at that level.

V. TREATMENT OF THE DATA

Analysis of covariance was applied to the data according to a program designed by Hurst (1961) for the IBM 1620 machine. The program is described thus:

> "This program will compute covariance analysis, either simple or multiple, for a completely randomized design. There may be variable counts per group. The analysis is computed on the basis of adjustment using the pooled regression equation. This assumes homogeneity of variance among groups." (Guide for the Preparation of Data for Computer Processing, Department of Educational Psychology, University of Alberta, 1963)

By this method, each category for each grade was analyzed separately. For example, in Category I for Grade IV, there were three pupil scores to be considered and three sub-groups of pupils according to the amount of training of their teachers. Group one consisted of pupils of teachers with one to two years of training; group two of pupils of teachers with two to three years of training; and group three of pupils of teachers with three or more years of training.

The dependent or criterion variable in this instance was variable three, the reading score attained in Grade IV. Variable one was the Alpha intelligence quotient and variable two was the Grade III reading score,

both of these being covariates, effects of which were considered in the regression equations on which the analysis of variance of the Grade IV reading scores was based. Similarly, in the Grade V and VI analyses, each criterion variable was dependent on the effects of intelligence and previous reading scores as indicated.

For each sub-group, the following information was given in the output data:

(a) means for each variable, both independent and criterion;

(b) coefficients of each variable for the regression equation which reveals how much of the variance of the criterion is predictable by the independent variables or covariates;

(c) the total variance of the criterion;

(d) the residual variance of the criterion - that is, the variance not accounted for by the regression equation;

(e) the squared multiple correlation; and

(f) "F" ratios testing the differences between group means for each variable.

The final block of output gave an adjusted "F" ratio which tested the differences between group means when these had been adjusted for linear effects of the covariates

using a multiple or pooled regression equation incorporating the individual regression equations of all groups.

Means of the criterion variables for the groups were also adjusted for differences between covariates.

The final block of information indicated whether or not the differences between adjusted means were statistically significant.

The purpose of this analysis, then, was to determine what part of the variance of the criterion variable (that is, the reading score under consideration) could be attributable to the effectiveness of the teacher during that particular year, when the effects of both reading achievement in previous years and intelligence were accounted for in the pooled regression equation on which the analysis was based.

Wherever an "F" ratio indicated a significant difference in a category consisting of more than two sub-groups, adjusted means were tested, two at a time, by the use of a "t" test (Ferguson, 1959, p. 238).

CHAPTER IV - SUMMARY OF FINDINGS

In this chapter the results of the analysis of covariance as described in Chapter III will be discussed, category by category.

I. RESULTS OF ANALYSIS OF CATEGORY I - TEACHER TRAINING BEYOND GRADE TWELVE

There were no significant differences in the means of reading scores achieved by pupils grouped according to their teachers' varying amount of training. In grade four, adjusted means varied less than two raw score points from lowest (that achieved by pupils of teachers with two to three years of training) to highest (that achieved by pupils of teachers with one to two years of training). In Grade V, the difference between highest and lowest mean scores was 2.02, while the Grade VI difference was only 2.53 points out of an overall mean score of approximately 100.

The tables in Chapter III show that the teacher population, when divided into the training sub-groups, consists largely of individuals with comparatively little training. In two grades of the three, pupils of those teachers with least training achieved lowest results.

In Grade IV, where this trend was reversed, an explanation may lie in the fact that more Grade IV teachers were younger, perhaps somewhat more enthusiastic, and their training had been received more recently. As Table III shows, there were indications of an increase in pupil achievement in reading in Grades V and VI as teachers progressed from between one and two years of training to between two and three years.

TABLE III

COMPARISON OF MEANS OF PUPIL READING SCORES
ACCORDING TO CATEGORY I - TEACHER TRAINING

YEARS OF TRAINING		GRADE IV			GRADE V			GRADE VI	
	N	Unadj. Mean	Adj. Mean	N	Unadj. Mean	Adj. Mean	N	Unadj. Mean	Adj. Mean
One - Two	207	68.94	68.92	174	83.18	82.28	87	98.28	99.12
Two - Three	240	66.74	67.74	13	90.31	84.30	42	101.48	101.65
Three or More	77	71.09	68.00	66	80.71	84.28	51	103.53	101.95

(No significance was found in the differences between adjusted means.)

Despite the one contradictory trend, the inference is that perhaps extra training does affect pupil achievement in reading, however slightly. In all three grades, however, there was a general "levelling-off" of achievement in the highest training sub-group (three years or more).

Two facts should be considered in the possible explanation of this finding: (a) the majority of teachers with three or more years of training were secondary-trained, and (b) more than half were also administrators.

As can be seen by the greater fluctuations among unadjusted means in Figure 1, extreme differences were nullified by the adjustment in the analysis (for intelligence and previous reading scores) revealed in the adjusted means.

II. RESULTS OF ANALYSIS OF CATEGORY II - READING COURSES BEYOND FIRST YEAR OF TRAINING (OR INTRODUCTORY COURSES)

A significant difference in pupils' achievement, favoring those whose teachers had taken extra training in the teaching of reading, was found at the Grade V level. The difference was approximately three points in adjusted means. As Table IV indicates, the Grade V teachers with extra reading courses achieved results which were significantly higher (.05 level) than results achieved by pupils of teachers without the extra training. Although the Grade IV results were not statistically significant, a similar tendency exists at that level, the difference again being nearly three raw score points.

Figure 1. Comparison of Means of Pupil Reading Scores According to Category I - Teacher Training

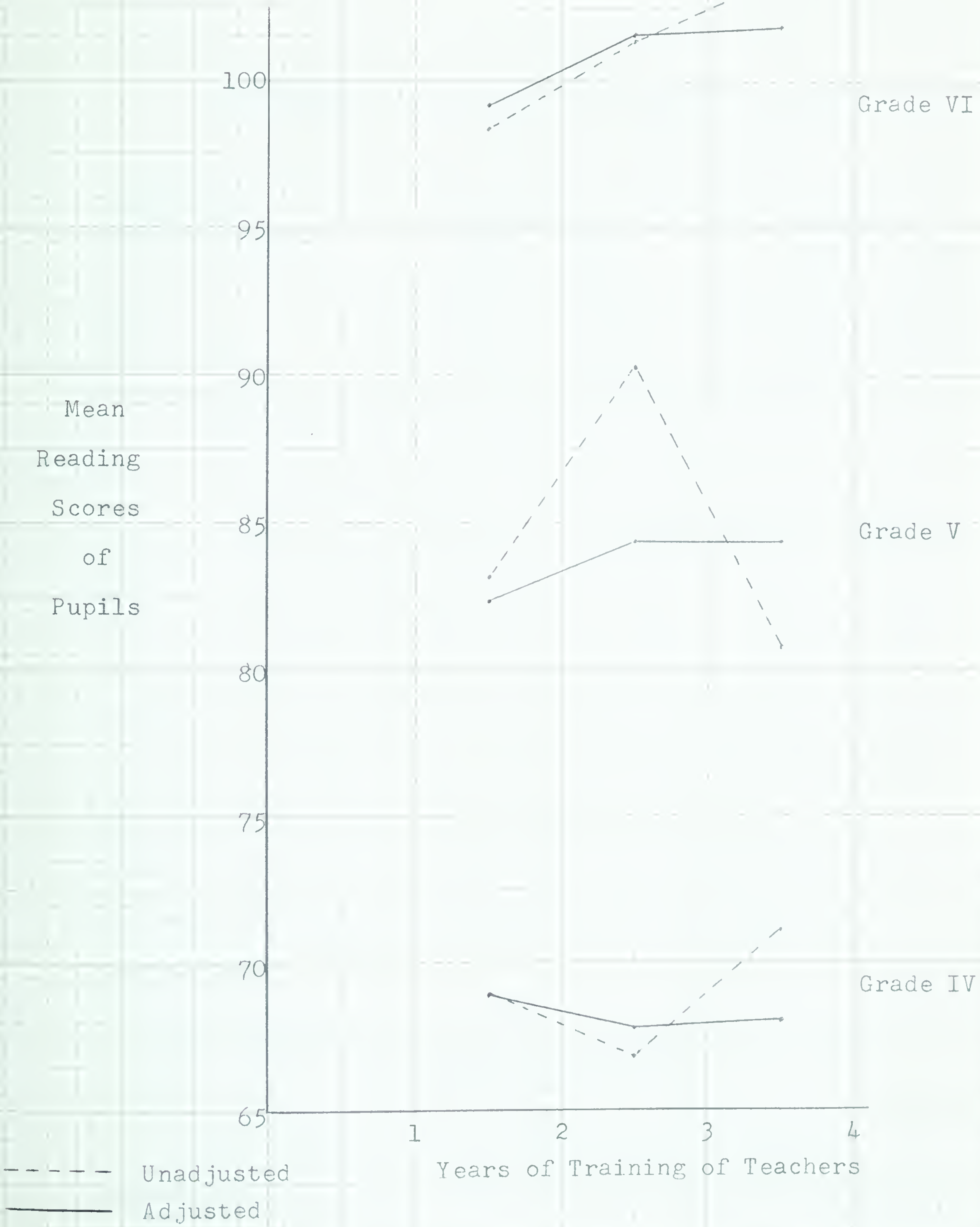


TABLE IV

COMPARISON OF MEANS OF PUPIL READING SCORES ACCORDING TO CATEGORY II - READING COURSES

NUMBER OF READING COURSES	GRADE IV N	 Unadj. Mean	 Adj. Mean	GRADE V N	 Unadj. Mean	 Adj. Mean
Zero	422	67.17	67.74	176	82.63	81.96
One or More	102	72.89	70.56	77	83.40	84.95*

*Significant at .05 level.

Unfortunately, this category could not be analyzed at the Grade VI level because no teachers of that grade had received extra training in the teaching of reading. The explanation may lie in two circumstances. First, six of the ten Grade VI teachers in the study were males, five of whom were secondary-trained (though several had started teaching with the standard one year - Normal or Junior E.) and, second, the four women teachers had, in all cases, received their training many years prior to the time of the study and were considerably older than their male counterparts.

III. RESULTS OF ANALYSIS OF CATEGORY III - YEARS OF TEACHER EXPERIENCE

The analysis of pupil achievement in reading classified according to their teachers' years of experience

produced significant, though somewhat inconsistent results at the Grade IV and Grade V levels.

TABLE V

COMPARISON OF MEANS OF PUPIL READING SCORES ACCORDING TO CATEGORY III - TEACHER EXPERIENCE

YEARS OF EXPERIENCE	GRADE IV			GRADE V			GRADE VI		
	N	Unadj. Mean	Adj. Mean	N	Unadj. Mean	Adj. Mean	N	Unadj. Mean	Adj. Mean
Zero - One	110	65.77	69.39	26	75.04	79.54	-	-	-
Two - Four	80	66.64	66.21	31	89.42	88.17**	31	104.45	102.51
Five - Ten	123	72.47	71.59**	29	77.76	81.98	106	101.11	100.55
Over Ten	211	67.53	66.32	167	83.67	82.47	43	96.19	98.99

**Significant at .01 level.

In Grade IV, as can be noted in Table V and Figure 2, pupils of teachers with five to ten years of experience achieved the highest mean reading score. This mean score was 5.38 raw score points higher than that achieved by pupils of teachers with two to four years of experience, significant at the .01 level, and 5.27 points higher than that achieved by pupils of teachers with over ten years of experience, significant at the .001 level. (The difference in levels of significance is explained by differences in the controlled variables, I.Q. and previous reading scores.) The highest mean score, though 2.2 points higher, was not

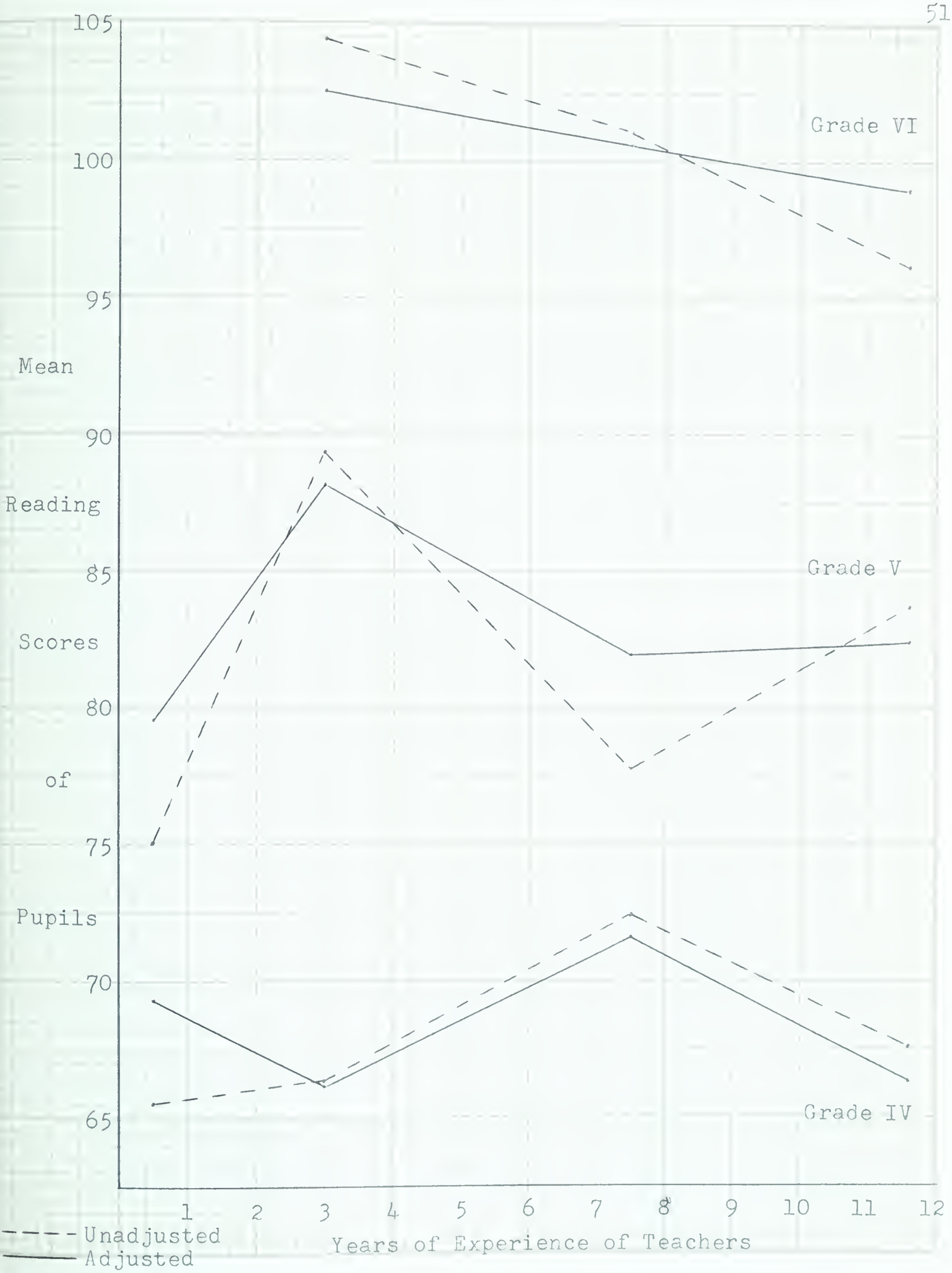


Figure 2. Comparison of Means of Pupil Reading Scores According to Category III - Teacher Experience

significantly greater than the score achieved by pupils of teachers with less than two years' experience.

Additional calculations of "t"-tests for differences between means, taken two at a time, can be found in the Appendix.

The significance of the Grade IV differences between means may be attributable to the fact that four teachers in the significant level of training were also those who had received extra training in the teaching of reading. In addition, their training was comparatively recent, for only two of the six were over thirty years of age, and those two were under thirty-five.

At the Grade V level, teachers with two to four years of experience achieved results significantly higher than teachers in all other categories. The differences were: (a) 8.63 raw score points over the zero-to-one year sub-group (significant at the .01 level), (b) 6.19 points over the five-to-ten year sub-group (significant at the .01 level), and (c) 5.70 points over the over-ten year sub-group (also significant at the .01 level). The clear-cut superiority of the two-to-four year experience sub-group may result from the following combination of factors: (a) youthful enthusiasm tempered by a certain amount of actual experience, (b) comparative recency of training

(which may infer effectiveness of modern methods and/or courses), and (c) the fact that both Grade V teachers in the sub-group had taken extra training in the teaching of reading.

The apparent inconsistency arises in the fact that the two-to-four year experience sub-group is most successful at the Grade V level and least successful at the Grade IV level. As the results of the analysis of Category II have shown, the effect of extra reading courses alone may be sufficient to show an actual relationship rather than an inconsistency in results. In any case, both significant sub-groups have comparative youth and fairly recent training in common.

No significant results were found in Grade VI, at which level there were no teachers with less than two years' experience. The difference in adjusted means between the most and the least successful of the three remaining sub-groups was only 3.52 raw score points.

A noteworthy tendency appears in both Grades IV and VI, namely, a dropping-off of means with teaching experience of over ten years. This tendency is especially noticeable in Grade VI, where each higher level of teaching experience resulted in lower pupil achievement. It is interesting to note also that, at this grade level, not one teacher was in

the lowest experience sub-group and not one teacher had received extra training in teaching reading.

IV. RESULTS OF ANALYSIS OF CATEGORY IV - TEACHER SEX

The analysis of reading results according to teacher sex produced inconsistent findings. At the Grade IV level, the pupils of female teachers were found to have achieved significantly higher results (.01 level) than pupils of male teachers. The difference in mean raw scores was almost five points. No significant difference was found in Grade V, but Grade VI pupils of male teachers were significantly superior (.05 level) to pupils of female teachers, the mean difference being 2.75 raw score points. Table VI shows the complete results.

TABLE VI

COMPARISON OF MEANS OF PUPIL READING SCORES ACCORDING TO CATEGORY IV - TEACHER SEX

TEACHER SEX	GRADE IV			GRADE V			GRADE VI		
	N	Unadj. Mean	Adj. Mean	N	Unadj. Mean	Adj. Mean	N	Unadj. Mean	Adj. Mean
Male	119	60.25	64.48	59	81.56	82.94	91	101.42	101.87*
Female	405	70.51	69.27**	194	83.26	82.84	89	99.58	99.12

**Significant at .01 level.
*Significant at .05 level.

The apparent inconsistency again illustrates the futility of considering any one teacher characteristic by itself. An examination of the tables of teacher populations (Chapter III) within sub-groups of all the categories reveals that the majority of Grade IV teachers, both male and female, were in the two youngest age-groups. As it happened also, two of the six male teachers of Grade VI were over 35 years of age. Furthermore, all four female Grade VI teachers were over fifty years of age and had taken their training many years before this study was undertaken.

V. RESULTS OF ANALYSIS OF CATEGORY V - TEACHER AGE

No significant results were found in the analysis of pupil reading scores according to teacher age. Table VII gives the exact figures. Total differences are very small, considering that there were three or four sub-groups in this category. The differences between highest and lowest sub-groups were 3.72 raw score points in Grade IV, .84 in Grade V, and 2.22 in Grade VI. As is shown in Figure 3, no consistent overall trend or pattern is evident in the adjusted means. Relatively less variability is shown at the Grade V and VI levels than at the Grade IV level, but this may be a result of there being one age-group

TABLE VII

COMPARISON OF MEANS OF PUPIL READING SCORES ACCORDING TO CATEGORY V - TEACHER AGE

AGE IN YEARS	GRADE IV N	GRADE IV Unadj. Mean	GRADE IV Adj. Mean	GRADE V N	GRADE V Unadj. Mean	GRADE V Adj. Mean	GRADE VI N	GRADE VI Unadj. Mean	GRADE VI Adj. Mean
18 - 24	190	66.14	68.02	86	81.02	83.33	-	-	-
25 - 34	133	70.71	69.82	-	-	-	58	102.02	101.84
35 - 49	118	66.10	66.099	93	85.72	82.49	38	101.11	100.46
50 and Over	83	71.75	68.86	74	81.42	82.79	84	99.20	99.62

(No significance was found in the differences between adjusted means.)

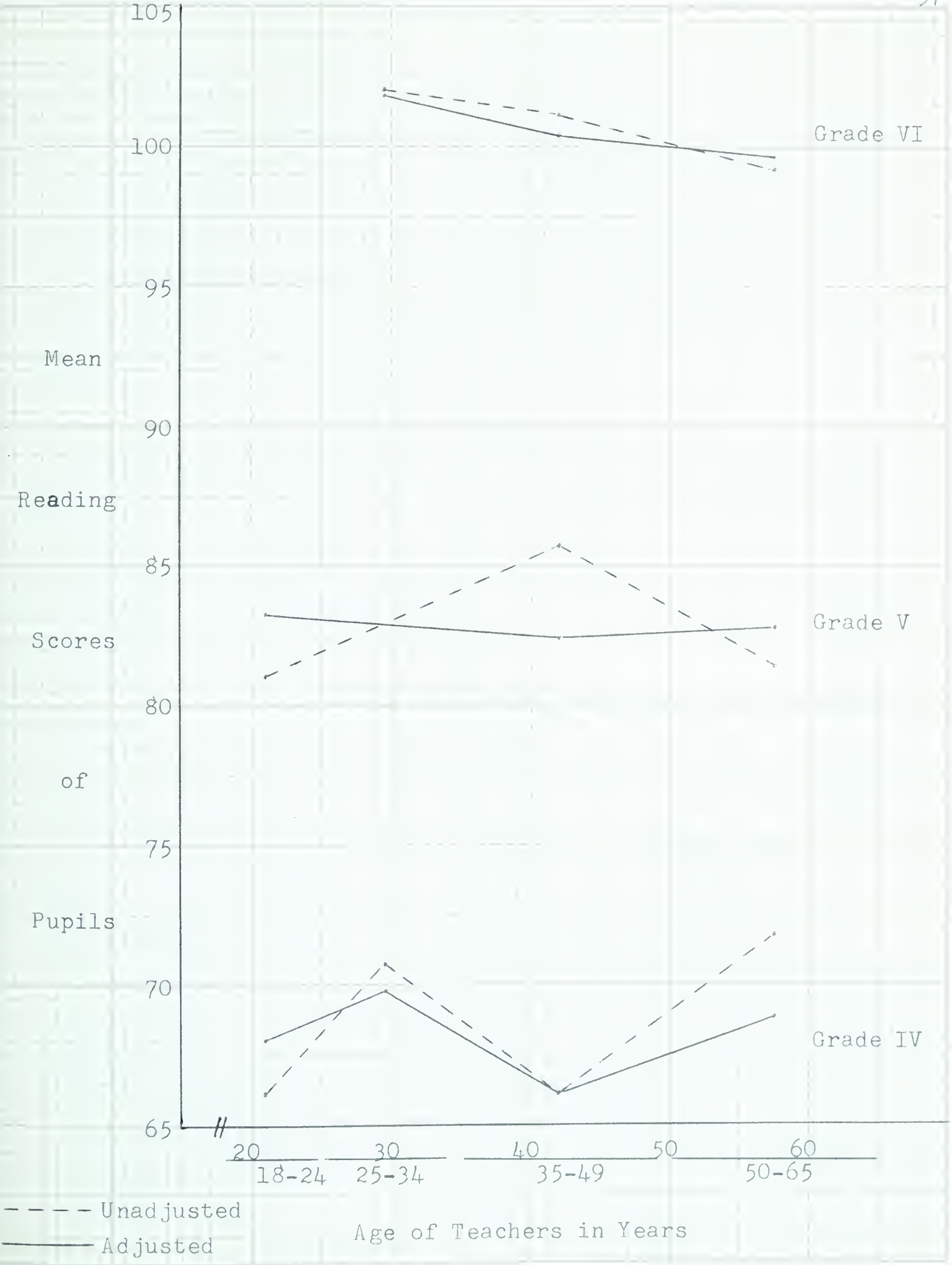
missing at each of the two higher grade levels.

The only noteworthy trend in the results of this category is one that was evident in Category III (teaching experience), i.e. the lowering of pupil achievement when related to teacher age at the Grade VI level.

VI. SUMMARY

Although findings related to teacher training were non-significant, a tendency for teachers with greater training to be more effective in inducing pupil achievement in reading was apparent. In the analysis of effectiveness of extra training in the teaching of reading, results significantly favored teachers with such training over those

Figure 3. Comparison of Means of Pupil Reading Scores According to Category V - Teacher Age



without it.

Two to four years of teaching experience were found to be significantly effective in teaching reading at the Grade V level, while five to ten years' experience was significantly superior for Grade IV teachers. In Grades IV and VI, teacher experience over ten years resulted in lower pupil achievement in reading.

Female teachers of Grade IV were found to be significantly superior to males; there was no significant difference in Grade V; but male teachers were superior at the Grade VI level. This last finding, however, is subject to the effects of a confounding variable overlooked in the planning of the study.

The differences in effects of teacher age on pupil reading achievement proved to be non-significant, although one noticeable trend was the lowering of pupil achievement in Grade VI in relation to increasing teacher age.

A summary of the variables used in the analysis described in Chapter III, the unadjusted means of the reading scores achieved by pupils of teachers within each sub-group of each teacher category, and the adjusted means which were the criteria for judging teacher effectiveness by category are all revealed in Table VIII on the page following.

TABLE VIII

SUMMARY OF NUMBERS OF PUPILS, INDEPENDENT VARIABLES, AND RESULTS OF THE ANALYSIS

	GRADE IV					GRADE V						GRADE VI						
TEACHER CATEGORY	N	Mean I.Q.	Mean Gr.3 Rdg.	Unadj. Mean	Adj. Mean	N	Mean I.Q.	Mean Gr.3 Rdg.	Mean Gr.4 Rdg.	Unadj. Mean	Adj. Mean	N	Mean I.Q.	Mean Gr.3 Rdg.	Mean Gr.4 Rdg.	Mean Gr.5 Rdg.	Unadj. Mean	Adj. Mean
CATEGORY I - YEARS OF TRAINING																		
1 - 2	207	104.3	84.43	68.94	68.92	174	104.2	83.55	69.83	83.18	82.28	87	103.7	30.66	65.34	88.06	98.28	99.12
2 - 3	240	105.7	83.37	66.74	67.74	13	105.2	84.15	77.15	90.31	84.30	42	106.6	32.48	65.79	86.45	101.48	101.65
3 or More	77	107.7	86.30	71.09	68.00	66	104.4	82.88	63.61	80.71	84.28	51	107.8	31.14	70.71	87.59	103.53	101.95
CATEGORY II - READING COURSES																		
Zero	422	105.0	83.84	67.17	67.74	176	105.3	83.61	69.44	82.63	81.96	NOT APPLICABLE IN GRADE VI						
1 or More	102	107.3	85.83	72.89	70.56	77	102.1	82.79	66.62	83.40	84.95*							
CATEGORY III - YEARS OF EXPERIENCE																		
0 - 1	110	102.3	81.92	65.77	69.39	26	101.1	79.31	64.62	75.04	79.54	-	-	-	-	-	-	-
2 - 4	80	103.2	84.99	66.64	66.21	31	101.1	83.45	70.39	89.42	88.17**	31	107.1	31.48	66.68	91.84	104.45	102.51
5 - 10	123	106.2	84.82	72.47	71.59**	29	103.4	84.21	61.59	77.76	81.98	106	105.2	32.16	67.92	87.64	101.11	100.55
Over 10	211	107.4	84.86	67.53	66.32	167	105.6	83.89	70.08	83.67	82.47	43	105.1	29.47	64.84	84.23	96.19	98.99
CATEGORY IV - SEX																		
Male	119	101.5	81.40	60.25	64.48	59	100.8	82.64	66.92	81.56	82.94	91	106.5	31.03	65.81	87.00	101.42	101.87*
Female	405	106.6	85.10	70.51	69.27**	194	105.4	83.69	69.09	83.26	82.84	89	104.5	31.40	68.11	88.11	99.58	99.12
CATEGORY V - AGE IN YEARS																		
18 - 24	190	102.7	83.21	66.14	68.02	86	101.9	82.45	65.67	81.02	83.33	-	-	-	-	-	-	-
25 - 34	133	107.1	84.68	70.71	69.82	-	-	-	-	-	-	58	106.4	31.24	65.57	88.64	102.02	101.84
35 - 49	118	106.2	84.12	66.10	66.099	93	106.1	84.76	72.46	85.72	82.49	38	104.3	31.82	68.18	88.34	101.11	100.46
50 & Over	83	107.9	86.14	71.75	68.86	74	104.9	82.66	67.09	81.42	82.79	84	105.5	30.93	67.26	86.44	99.20	99.62

* $p < .05$ ** $p < .01$

CHAPTER V - CONCLUSIONS AND IMPLICATIONS

This study attempted to discover which of several objective teacher characteristics are most effective in inducing pupil achievement in reading. Although the findings were not always conclusive, certain trends were evident, as well as one or two definite results, which may prove to be worthy of consideration in the selection and placement of elementary teachers, at least those of reading. This chapter will discuss conclusions in terms of the null hypotheses upon which the study was based and implications which may be drawn from the findings.

I. HYPOTHESES

First Null Hypothesis.

> There is no significant difference in the degree to which differing amounts of teacher training are effective in inducing pupil achievement in reading.

This hypothesis was substantiated at all three grade levels - IV, V, and VI. The general opinion that greater training produces greater teacher effectiveness was not borne out in the study, although a corroborative tendency existed in Grades V and VI. However, the teaching of reading is somewhat specialized, even at the upper elementary school level, and in few cases did a higher level of

training include extra training in the field of reading. The apparently corroborative tendency may be explained by the fact that, at the Grade V and VI levels, many of the teachers in the lower-training sub-groups were also in older age-groups, and the somewhat lower achievement of their pupils may be the result of the combination of the two factors. The reversal of the trend in Grade IV indicates that youthful enthusiasm and recency of training may be more than enough to counterbalance greater amounts of training, i.e. quantity. It is not unreasonable to infer that more recent training of teachers may be providing a somewhat higher level of teaching effectiveness or, in other words, that quality of training may have improved.

Second Null Hypothesis.

> Additional courses in reading will not improve teacher effectiveness as measured by pupil achievement in reading.

This hypothesis was substantiated at the Grade IV level but rejected at the Grade V level. It was unfortunate that no Grade VI teachers in the group under study had received extra training in teaching reading, because results in the other two grades provide conclusive evidence, one grade showing statistically significant results and the other, though non-significant, also distinctly favoring extra training.

It should be remembered that those teachers who had received extra training in reading were largely from the younger, more-recently-trained group, while the lack of Grade VI teachers in this group is further indication that teachers of that level in the study were either (a) older teachers who had received minimum training some years ago, or (b) secondary-trained teachers with little or no training in the teaching of reading. Many of the latter were, in fact, in administrative-teaching positions.

Nonetheless, it seems apparent that effectiveness in teaching reading is positively related to the teacher's specialized training in the field of reading.

Third Null Hypothesis.

> There is no significant difference in the degree to which differing amounts of teaching experience are effective in inducing pupil achievement in reading.

This hypothesis was rejected at both Grade IV and Grade V levels, though substantiated at the Grade VI level. Here again, the relationship of one teacher characteristic to others is evident. In both of the grades where significant differences were found, the most effective subgroups (five to ten years at the Grade IV level and two to four years for Grade V) had in common the majority of the teachers of that grade level who had received extra

training in reading. Furthermore, the fact that the two significant levels of experience were adjacent again points out the relationship of comparative youth and recency of training to teaching effectiveness. These two factors, particularly when combined with specialized reading training, appear to offer conclusive evidence of their effectiveness.

The loss of teaching effectiveness when experience exceeds ten years, evident in Grade IV but especially noticeable in Grade VI results, points out the need for counter-measures if the highest possible pupil achievement is to be realized throughout the entire teaching force. Teachers involved in this loss of effectiveness were, in the main, older, trained many years ago and/or secondary-trained, and completely lacking in specialized training in the teaching of reading.

Certainly, long years of teaching experience, when taken as the sole consideration, appear to offer no assurance of inducing high pupil achievement in reading.

Fourth Null Hypothesis.

> Teacher sex does not significantly affect pupil achievement in reading.

This hypothesis was substantiated at the Grade V level, but rejected at both Grade IV and Grade VI levels.

Grade IV results show decided superiority of women teachers of reading at this level, while Grade VI results favor male teachers at that level. The conclusiveness of these findings should be tempered by the following considerations:

(a) five of the twenty female Grade IV teachers had taken extra training in the teaching of reading, while only one of the six male teachers had extra reading training;

(b) the experience factor favored female teachers of Grade IV, though on the whole the difference was noteworthy only in that two of the males were beginning teachers, a higher proportion than that existing among the women;

(c) neither experience nor training was lacking among male Grade VI teachers, though extra training in the teaching of reading was nonexistent among both males and females;

(d) Grade VI women teachers had generally less training, were older, and were largely in the over-ten years of experience sub-group.

A confounding factor in Grade VI was completely overlooked in the preliminaries and, consequently, in the analysis of this study. As several of the male Grade VI teachers were principals, their classes were taught at

least one day a week (sometimes more often) by relieving teachers, all of whom were female. This factor may or may not have influenced the results.

The closeness of the Grade V results indicates a better balance of all the teacher characteristics under study in the Grade V teacher population.

All things considered, it appears that women teachers may produce better pupil achievement in reading in Grade IV but that this superiority disappears at higher levels, perhaps because of general pupil maturation as well as an increasing empathy of boys with male teachers.

Fifth Null Hypothesis.

> Teacher age does not significantly affect pupil achievement in reading.

This hypothesis was substantiated at all three grade levels under study. In the analysis, the relationship between experience and age was quite evident, though the differences were significant in the former category and non-significant in the latter. The trends are identical, even though the groups within the two categories do not correspond exactly. In Grade IV, best results were achieved by teachers in the 25-34 year age-group, which corresponds roughly with the most effective experience sub-group, 5-10 years. Similarly, in Grade V (where no teacher was in the 25-34 year age-group) the highest scores

were achieved by the youngest group, 18-24 years, which presumably consists mainly of the same teachers as are in the most effective experience sub-group, 2 to 4 years.

At the Grade VI level, the tendency for pupil achievement in reading to become lower as teacher age increases is identical to the trend revealed in the analysis of teacher experience.

On the whole, however, teacher age alone does not appear to be significantly related to pupil achievement in reading.

II. CONCLUSIONS

On the basis of the results of this study, the following conclusions can be drawn:

1. Length of training of teachers has little effect on pupils' reading achievement in Division Two, though greater training appears to be slightly more effective.
2. Specialized training in the teaching of reading, beyond initial introductory courses, is definitely effective in producing improved pupil achievement in reading at the Division Two level.
3. When no attempt is made to up-date training, a teacher's effectiveness in inducing pupil achievement in reading in Division Two tends to be lessened as experience

exceeds ten years.

4. Female teachers may be superior to males in inducing higher pupil achievement in reading at the Grade IV level.
5. Age of teachers has little or no effect on pupil achievement in reading in Division Two.

III. IMPLICATIONS

It is obvious that selection of a teacher for any position at any grade level ought not to be dependent upon any one teacher characteristic. However, this study has perhaps thrown some light on the question of which of some of the objective characteristics of teachers might be considered most important in the selection of teachers of reading at the Division Two level.

The study, although very limited in its scope, has revealed the importance of at least one characteristic which has largely been overlooked in past selections of teachers of upper elementary grades. The importance of this characteristic is, of course, dependent upon the school system's (as reflected in the selector's) concept of the purposes of elementary education. If a primary purpose is considered to be the teaching of reading, then the more complex reading skills which are intended to be

developed in Division Two must be given primary consideration in the selection of teachers for that level. This study, however limited, clearly indicates the superiority of teachers with advanced training in the teaching of reading over others without extra training. It appears that this particular characteristic might well be given a primary position in the consideration of a teacher's qualifications for positions in Grades IV, V, and VI.

So far as other objective teacher qualifications are concerned, findings of this study tend to confirm the existing general conviction that more training in teachers produces greater achievement in pupils. Obviously, a teacher whose own education has been deepened and broadened is in a better position to guide pupils into a broader and deeper investigation into many fields of knowledge through increasingly mature reading.

Age and experience are characteristics so closely related that they might well be considered together. The levelling-off of effectiveness in teaching reading of older, more experienced teachers implies a need for some measure of counteraction. An attempt has been made to explain the apparent loss of effectiveness by pointing out that the training of many years ago may not only have become dimmed in the minds of the teachers who received it,

but also that that training may not have been as effective as modern methods and courses. Certainly, recency of training and comparative lack of experience in teachers did not prove to be detrimental to pupils in this study. Quite the contrary, in several instances.

Responsibility for counteracting the effects of age and lengthy experience in teachers would appear to lie both with the school systems in which such teachers are giving service and with teacher education institutions. Systematic inservice training programs within school systems and periodic refresher or higher level courses for teachers would be means by which continuing effectiveness could be achieved. It is unrealistic to expect all teachers, without professional opportunity and encouragement, to maintain youthful vigor and enthusiasm until retirement age.

It appears that male teachers are generally less likely than females to be effective in teaching reading below the Grade V level. Perhaps the current de-emphasis of the prestige formerly accorded secondary route trainees plus the increasing emphasis on the importance of specialized training in reading as well as other fields at elementary levels will, in years to come, produce more effective male as well as female teachers of elementary grades.

IV. LIMITATIONS OF THE STUDY

Conclusions drawn from the findings of this study must be considered in the light of the following limitations:

1. The populations, both teacher and pupil, proved to be rather small for the number of sub-groups within the teacher categories employed in the study.
2. The nature of the teacher population, although reasonably typical, restricted the usefulness of some of the sub-groupings.
3. The Grade III reading scores, used as control variables for previous reading achievement, were less reliable than might have been desired because two different tests were used in the school system in years affecting those under study and, further, in one instance the tests comprised only part of the complete battery intended to give a comprehensive picture of reading achievement at that level.
4. No distinction was made in the study between recent teacher training and training received many years ago. Allusions to recency (or otherwise) of training were made only on the basis of the investigator's fairly intimate knowledge of the teacher population involved.

5. The fact that relieving teachers might have been at least partly responsible for the teaching of reading to pupils of elementary principals (mainly at the Grade VI level) was overlooked in the planning of the study.
6. Though it was assumed that teachers in schools employing special grouping plans in reading were randomly distributed throughout the sub-groups of characteristics under study, there may have been confounding effects on the analysis as a result of the use of grouping plans.

V. SUGGESTIONS FOR FURTHER RESEARCH

As this study is perhaps one of the first of its kind undertaken in the field of reading at the upper elementary level, a number of possibilities for further investigations have suggested themselves.

1. A study similar in nature to this one, but on a larger scale (possibly including both rural and urban educational systems) and perhaps employing selected or matched groups of teachers and pupils, should provide more conclusive evidence than this present study has been able to produce.
2. A study as above, but investigating also the interrelationships of teacher characteristics or qualifications in effectiveness should provide further evidence

as to the general types of teachers who are most likely to induce higher pupil achievement.

3. A study investigating the most significant objective characteristics of primary teachers of reading should provide further guidance to school officials in selecting teachers for the primary grades.
4. A study investigating the relationship between reading achievement and general scholastic achievement in junior high school should give evidence as to the advisability of employing teachers with specialized training in the teaching of reading at this level.
5. Studies, employing control of previous achievement as well as intelligence of pupils, of the effectiveness of teacher characteristics in all subject fields would provide better guidance to selectors of teachers than studies heretofore undertaken which do not take previous achievement into consideration.

VI. CONCLUDING STATEMENT

This study into the effectiveness of certain teacher characteristics, using pupil achievement as the criterion while controlling effects of both intelligence and previous achievement of the pupils, has not been entirely successful in providing guidance to school officials responsible

for the selection and placement of teachers.

Despite its limitations, the study did attempt to control one very important variable which was uncontrolled in other similar studies, viz., previous achievement, and perhaps in so doing has revealed certain findings which have not always been considered in teacher selection and placement. First, and certainly most important, is the evidence showing that extra training in reading is significantly effective in inducing pupil achievement in reading. Secondly, the non-significance of results in the analysis of teacher training indicates that length of training alone may not be effective in the teaching of reading. Type of training appears to be equally, if not more, important. Thirdly, lengthy teaching experience, when untempered by professional up-grading throughout its length, has been shown to be rather a detriment than an asset to a teacher of reading.

Perhaps the continuing appraisal of education and the recent recognition of the foremost position of the elementary school in the total picture will result in an increasing consciousness of and further investigation into the characteristics which actually do result in greater teacher effectiveness at the elementary school level.

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APPENDICES

APPENDIX A

TABLES OF DATA FROM ANALYSIS OF COVARIANCE

TABLE IX

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY I - TEACHER TRAINING - GRADE IV

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	2	79.175	.4115
Within	519	192.408	

R SQ = .4181 $F_{crit.}$ (.05) = 3.02

TABLE X

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY I - TEACHER TRAINING - GRADE V

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	2	107.36	1.24
Within	247	86.11	

R SQ = .7409 $F_{crit.}$ (.05) = 3.04

TABLE XI

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY I - TEACHER TRAINING - GRADE VI

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	2	147.42	2.39
Within	173	61.59	

R SQ = .8080 $F_{crit.}$ (.05) = 3.06

TABLE XII

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY II - READING COURSES - GRADE IV

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	1	647.420	3.3356
Within	520	194.094	

R SQ = .4015 $F_{crit.}$ (.05) = 3.86

TABLE XIII

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY II - READING COURSES - GRADE V

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	1	469.43	5.559
Within	248	84.44	

R SQ = .7477 $F_{crit.}$ (.05) = 3.89

TABLE XIV

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY III - TEACHER EXPERIENCE - GRADE IV

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	3	875.290	4.665
Within	518	187.615	

R SQ = .4248 $F_{crit.}$ (.05) = 2.62

$F_{crit.}$ (.01) = 3.83

TABLE XV

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY III - TEACHER EXPERIENCE - GRADE V

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	3	396.37	4.67
Within	246	84.83	

R SQ = .7376

$F_{crit.}$ (.05) = 2.65
$F_{crit.}$ (.01) = 3.88

TABLE XVI

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY III - TEACHER EXPERIENCE - GRADE VI

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	2	108.69	1.83
Within	173	59.41	

R SQ = .8135

$F_{crit.}$ (.05) = 3.06

TABLE XVII

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY IV - TEACHER SEX - GRADE IV

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	1	2000.52	10.61
Within	520	188.63	

R SQ = .3964

$F_{crit.}$ (.05) = 3.86
$F_{crit.}$ (.01) = 6.70

TABLE XVIII

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY IV - TEACHER SEX - GRADE V

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	1	.346	.004
Within	248	86.25	

R SQ = .7420 $F_{crit.}$ (.05) = 3.89

TABLE XIX

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY IV - TEACHER SEX - GRADE VI

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	1	329.09	5.39
Within	174	61.00	

R SQ = .8114 $F_{crit.}$ (.05) = 3.91

TABLE XX

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY V - TEACHER AGE - GRADE IV

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	3	303.15	1.59
Within	518	190.58	

R SQ = .4159 $F_{crit.}$ (.05) = 2.62

TABLE XXI

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY V - TEACHER AGE - GRADE V

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	2	15.598	.18
Within	247	86.61	

R SQ = .7386 $F_{crit.}$ (.05) = 3.04

TABLE XXII

ADJUSTED ANALYSIS OF VARIANCE FOR CATEGORY V - TEACHER AGE - GRADE VI

Source of Variation	Degrees of Freedom	Mean Square	Adjusted "F" Ratio
Group	2	81.40	1.29
Within	173	62.94	

R SQ = .8061 $F_{crit.}$ (.05) = 3.06

APPENDIX B

COMPARISONS OF ADJUSTED MEANS TWO AT A TIME FOLLOWING SIGNIFICANT "F" RATIOS

The formula employed in the "t"-test calculations was taken from Ferguson (1959, p. 238), as follows:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{S_w^2}{N_1} \quad \frac{S_w^2}{N_2}}}$$

(a) <u>Category III - Teacher Experience - Grade IV</u>

Between sub-group three (5 - 10 years) and sub-group two (2 - 4 years):

$$t = \frac{71.59 - 66.21}{\sqrt{\frac{187.61}{123} + \frac{187.61}{80}}} = 2.73$$

$df = 518 \qquad t_{crit.}\ (.01) = 2.617$

Between sub-group three (5 - 10 years) and sub-group four (over 10 years):

$$t = \frac{71.59 - 66.32}{\sqrt{\frac{187.61}{123} + \frac{187.61}{211}}} = 3.38$$

$df = 518 \qquad t_{crit.}\ (.001) = 3.373$

(b) Category III - Teacher Experience - Grade V

Between sub-group two (2 - 4 years) and sub-group one (1 - 2 years):

$$t = \frac{88.17 - 79.54}{\sqrt{\frac{84.83}{31} \quad \frac{84.83}{26}}} = 3.52$$

$df = 246 \qquad t_{crit.} (.001) = 3.373$

Between sub-group two (2 - 4 years) and sub-group three (5 - 10 years):

$$t = \frac{88.17 - 81.98}{\sqrt{\frac{84.83}{31} + \frac{84.83}{29}}} = 2.60$$

$df = 246 \qquad t_{crit.} (.02) = 2.358$

Between sub-group two (2 - 4 years) and sub-group four (over ten years):

$$t = \frac{88.17 - 82.47}{\sqrt{\frac{84.83}{31} + \frac{84.83}{167}}} = 3.17$$

$df = 246 \qquad t_{crit.} (.01) = 2.617$

(In cases of significant "F" ratios found in categories consisting of only two sub-groups, "t"-tests were unnecessary.)

APPENDIX C

ASSUMPTIONS UNDERLYING THE ANALYSIS OF COVARIANCE

All the assumptions underlying the usual analysis of variance approach are also required in the analysis of covariance. In addition, there are assumptions about regression effects.

1. It is assumed that treatment effects and regression effects are additive. Implicit in this is the assumption that regressions are homogeneous.
2. It is assumed that residuals are normally and independently distributed with zero means and the same variance. Implicit in this is the assumption that the proper form of regression equation has been fitted. If a linear regression is used when the true regression is curvilinear, then the assumptions made with respect to the residuals will generally not hold.

Evidence from the usual analysis of variance indicates that F tests in the analysis of covariance are robust with respect to the violation of the two assumptions, normality and homogeneity of the residual variance.

(The passages above are excerpted from Winer, 1962, p. 586 and 587.)

APPENDIX D

TESTS USED IN THE STUDY

ATES BASIC READING TEST

or Grade 3 (Second Half) Through Grade 8

ype GS. Reading to Appreciate General Significance

TYPE GS
FORM 2

BUREAU OF PUBLICATIONS • TEACHERS COLLEGE • COLUMBIA UNIVERSITY
525 West 120th Street, New York 27, N. Y.

rite your name here..

ow old are you?.................................... When is your birthday?...

chool...Grade........................Date..

his is a reading test. You are to read some para-
raphs. Below each one is a sentence which tells
u what to do. It will tell you to draw a line un-
er one of five words which best shows that you understand the paragraph. Be sure to draw a line under only *one* word. Now try a sample before beginning the real test. Read the sample paragraph and do what the sentence under it tells you to do.

> Smart as horses are, they do not always know what is good for them. They sometimes want to gallop at top speed, but a good rider will never let them do it. A horse running at his top speed is out of control, just as a high-powered car would be. Unless a horse has been trained as a race horse, top-speed running puts great strain on his delicate legs.
>
> Draw a line under the word that tells what kind of running is bad for a horse.
>
> slow   top-speed   easy   controlled   moderate

n the following pages are more paragraphs similar
this one. When the signal "Begin" is given, you
hould turn the page, read the first paragraph, and
o what the directions tell you to do. When you
nish the first, go on with the second and so on until the signal "Stop" is given. The purpose of the test is to see how many paragraphs you can read and mark correctly in a short time. Don't waste any time. If you have trouble with a paragraph, go on to the next one. Don't look at anyone's paper.

Do not turn the page until you are told to begin.

o the teacher: Detailed instructions for administering and scoring this test are given in the Manual (included in each test package).

umber tried................................(possible 24)   Number correct (raw score)..............................

er cent accuracy.............................   Reading age..............................   Reading grade..............................

ime used.......................10 minutes (recommended for grades 3 and 4)   ....8 minutes (recommended for grades 5 and above)

Printed in U.S.A.

1. One rainy day, John, Frank, and Ellie were playing games on the kitchen table. An old jam jar was sitting near the edge of the table. All three children were restless, and kept bouncing around as they played. The jar jiggled closer and closer to the edge of the table. Finally, after Frank bumped especially hard against the table, there was a crash.

Draw a line under the word that tells what had fallen.

games Ellie table jar John

---

2. All the Fitzgibbons helped carry the evergreen tree into the living room, where they placed it on a stand. Father brought the boxes of bright balls and lights up from the basement. Then the children took turns hanging strings of lights from branch to branch. Afterwards, packages in gay-colored wrappings were placed under the decorated tree.

Draw a line under the word that tells what holiday the Fitzgibbons were celebrating.

July 4 Christmas New Year none Easter

---

3. Summer vacation was over. School would begin this morning. The weather had been so lovely that the Fields had stayed at camp until the last minute. After a pre-dawn start, they were on the way back to town. The girls were dressed in their school clothes so they would not have to stop at home to dress. They looked forward to seeing their classmates.

Draw a line under the word that tells when the Field girls wanted to reach school.

on time late never dawn next year

---

4. Bill and his friends went to the beach every Saturday in summer. They always saw other boys from their school there, running races or playing baseball in the sand. Bill's group seldom joined them, for they preferred to play their games and have their races in the water. All through the week they looked forward to their visits to the beach.

Draw a line under the word that tells what Bill and his friends liked best to do.

walk dance bicycle pitch swim

---

5. Mr. Brown, the director of the scho band, gave the members a new piece of musi The name of this song was *The Roller Coaste* a very fast and gay melody. It was not an ea piece to play, Mr. Brown said, but he to them they would play the music better if the tried to feel as if they were actually riding a roller coaster.

Draw a line under how the band membe should feel to play the music well.

sorry tired excited angry lonely

---

6. When the mild summer weather w over, Nanouk and his father and mother le their summer home and moved out on the i There the ice itself was the only buildi material, so Nanouk and his father built igloo for the family to live in. They cut gia bricks of ice and made a low, snug, rou house with a tunnel entrance.

Draw a line under the word that tells what part of the world Nanouk lived.

south north central tropic western

---

7. Once upon a time, a prince and a prince fell in love and wanted to be married. T princess' father, a powerful king, told t prince he had to solve three difficult riddl and perform three dangerous tasks before could marry the princess. The prince solv the riddles and performed the tasks easi Then he and the princess were married.

Draw a line under what the king did to t prince before he let him marry the prince

poisoned crowned tested fed taught

---

8. Mary was writing letters on a long tra trip. The conductor asked her if she would li to mail them on the train. He took her another car, where letters were being sort and put into bags according to where they w going. At the next train stop, she watch bags of already sorted letters being put off t train and new bags taken aboard.

Draw a line under the word that tells wh sort of car the conductor showed Mary.

tank passenger freight mail baggag

When there is ice and snow, many people er to stay at home. They feel that the cold and slippery ground make the outdoors an leasant place to be. Squirrels, too, stay in r treetop homes when the trees are covered ice. It is not safe for them to run and p on the icy branches of trees, and so the rrels do not go out.

raw a line under what a squirrel might do went out on the day described.

il skate sneeze eat slip

Mike had a book which was about hods of identifying people. The book said sometimes printer's ink was placed on the of a person's fingers. Then, one at a time, fingers of both hands were placed on a and carefully rolled from one side to the r so that all the little lines on the finger were shown on the paper.

raw a line under the word that tells what e's book was describing.

ts fingerprinting police ink cards

Each of us has at least two names: our en" name—John or Betty—chosen for us our parents; and our surname—Brown or Tavish–which we inherit from our family. surname of American families comes from father. A woman gives up her father's name n she marries. In some places, it is the an's name that the family uses.

raw a line under the word that tells what paragraph is about.

ed names parents Smith families

Many people enjoy making collections of rent kinds. Collections of some items ire special care if they are to remain in working order. Items of this sort might musket, a firelock, a carbine, a breech- er, a rifle, and an automatic. This collec- would also require safety precautions to ent injury.

raw a line under the word that tells what collection contains.

rniture dolls trains dresses guns

---

13. Most automobiles today use gasoline as fuel. This was not always so. The earliest car, built about two hundred years ago, was powered by steam. Other early automobiles used electricity. It was not until 1895, when a gasoline-driven automobile was the only car to finish an important race, that gasoline became the most popular automotive fuel.

Draw a line under the word that tells what this paragraph is about.

fuel horses airplanes races 1895

---

14. Experimental designs in automobiles are several years in advance of those now on sale. Often the bodies of experimental models are made of transparent material. Through the transparent body, the operation of the engine and the entire forms of the driver and riders are visible. The bodies of these cars are light but extremely strong.

Draw a line under the material used to make the bodies of these experimental cars.

ice water cloth plastic candy

---

15. The hardness of a mineral helps to determine its use. We can find the relative hardness of a mineral by seeing if it scratches another mineral, or if that mineral scratches it. Talc is a very soft mineral that looks like chalk. Scientists give talc a hardness rating of 1. A diamond is very hard, and it is given a rating of 10.

Draw a line under the word that tells an important quality of minerals.

taste coldness hardness smell size

---

16. Fran had to shop and have luncheon before meeting her mother that afternoon. First she went to buy some socks. The third pair she saw were not exactly what she wanted, but she bought them. Then she went into a lunchroom. She wanted to have hash and eggs, but she knew it would take a few minutes to cook them, so she had a cheese sandwich.

Draw a line under the word that tells how much time Fran had before meeting her mother.

little plenty too much days hours

17. Mr. Campbell has a fine collection of statues. Many of them have come from foreign lands, and all have been carefully chosen. His teak and mahogany figurines are particularly beautiful. His mangrove statue of a native man has finely detailed carving. Some statues from America are made from magnolia, dogwood, cypress, oak, and maple.

Draw a line under the kind of material used in Mr. Campbell's statues.

metal brick ice wood stone

---

18. Each of the great tribes of Indians that lived in America before the white man came from Europe had its own language. When different tribes met, they needed a way to speak together. Every Indian could not learn the languages of all the other tribes, so a common sign language was developed by which the tribes could understand one another.

Draw a line under the kind of language all the Indian tribes shared.

English Indian white French sign

---

19. Jim loved sports. He was also a good student, and by planning carefully, he always had his homework done on time. One afternoon at 3:30, as he arrived home from school, he realized that he had two hours of homework to do before the next day. He remembered, too, that the school was playing basketball against its biggest rival that night at 8:00.

Draw a line under the time at which Jim started to do his homework.

4:00 7:00 8:00 9:00 10:00

---

20. Bob had saved his allowance to buy a giant ice-cream soda. On his way to the soda fountain, he thought about what flavor he would have. First he thought that vanilla would taste good. Then he decided that a chocolate soda would taste even better. When he ordered his soda, the fountain boy said there was no chocolate ice cream or syrup left.

Draw a line under the word that tells what flavor Bob finally ordered.

chocolate vanilla pecan maple lime

21. Legends and tales handed down to
from the past often deal with magical eve
and objects in which men wanted to belie
Sometimes a tale tells about a thing wh
reminds us of a modern invention. In an
Persian tale there is a magic carpet th
carries its owner swiftly through the air a
lands wherever commanded.

Draw a line under the invention we m
think of when we read this tale.

car elevator plow airplane trai

---

22. Tim tended his vegetable garden faithfu
all summer. He watered it whenever there w
not enough rain. He weeded it twice a we
In late summer, just when the vegetables w
ready to eat, rabbits began to visit the gard
Tim was sorry to have to share the results
his hard work, but he liked rabbits too mu
to hurt them.

Draw a line under the word that tells h
Tim felt when the rabbits visited his gard

angry faithful sorry hungry joyou

---

23. Farmers shoot hawks to protect th
chickens. Some scientists say, however, t
hawks, by taking an occasional chicken, ac
ally save the lives of many more. They say
because they are convinced that a hawk can
catch a healthy chicken. By removing the w
chickens, hawks reduce the chance that dise
may sweep through the entire flock.

Draw a line under what some scientists
hawks do to a flock of chickens.

starve burn weaken sicken improv

---

24. Pat wondered why a piece of black ma
was on display at the British Museum
London. Her mother explained that it is
Rosetta Stone, and that it made possible
reading of Egyptian hieroglyphics. Since
same message was written on the stone in th
languages, the Greek message was used to
decode the hieroglyphic message.

Draw a line under the word that tells w
the piece of black marble made possible.

pyramids Greek decoding Egypt sto

ES BASIC READING TEST

TYPE ND
FORM 2

rade 3 (Second Half) Through Grade 8

ND. Reading to Note Details

UREAU OF PUBLICATIONS • TEACHERS COLLEGE • COLUMBIA UNIVERSITY
25 West 120th Street, New York 27, N. Y.

your name here...

ld are you?...................................... When is your birthday?...

....Grade........................ Date...

s a reading test. You are to read a number
agraphs. Below each one are three questions
you must answer by drawing a line under
e word or phrase that gives the best answer.

Let us try a sample before we begin the real test. Read the paragraph. Then underline one—and only one—of the four answers to each question to show that you understand what the paragraph said.

> Next morning she awoke and found herself in a beautiful room. The walls were covered with silken curtains. There were two mirrors made of pure silver. The bed was made of ivory. The coverings were made of silk and velvet. By her bed lay a dress and a pair of slippers. The dress was made of silk. The slippers were covered with diamonds.
>
> Where did the girl find herself?
> barn room garden store
>
> What were the mirrors made of?
> silver gold pearl silk
>
> What were on the slippers?
> rubies pearls opals diamonds

e following pages are more paragraphs simi-
this one. When the signal "Begin" is given,
ie page, read the first paragraph, and under-
e best of the four answers to each question,
s you did above. When you finish the first,

go on with the second and so on until the signal "Stop" is given. The purpose of the test is to see how many paragraphs you can read and mark correctly in a short time. Don't waste any time. Don't look at anyone's paper.

Do not turn the page until you are told to begin.

acher: Detailed instructions for administering and scoring this test are given in the Manual (included in each test package).

tried.................................(possible 54)

Number correct (raw score)................................

accuracy..............................

Reading age..............................

Reading grade..............................

d..................10 minutes (recommended for grades 3 and 4)

....................8 minutes (recommended for grades 5 and above)

1. Rice is the chief item in the diet of the peoples of Asia. The seeds are sown in a rich, moist soil. When the sprouts are several inches high, they are transplanted to fields which are flooded with water. Here the plants remain until fully grown. Then the water is drained from the fields, and the rice is harvested by means of a sickle or knife.

The chief item in the diet of Asia is—
beef rice lettuce bread

Rice needs soil that is—
frozen dry rocky moist

In Asia, rice is harvested by means of a—
treadmill hoe sickle mower

---

2. Around 1850, steamboats provided an important means of transportation from one part of our country to another. On the big rivers it was steamboats all the way. Never had men traveled in such comfort as they did in those fast flat-bottomed boats, with their three or four decks. The rows of heavy seats had red cushions that were deep and soft.

In 1850 an important means of transportation was the—
bus train steamboat airplane

The bottoms of these steamboats were—
concave flat irregular arched

How many decks did these boats have?
none one three thirteen

---

3. Ships that carry oil cargoes are called tankers. They are actually floating oil tanks. When filled with oil, they ride so low in the water that the sea washes over their decks. For this reason, on almost all tankers the living quarters for the crew are at the rear, on the afterdeck. There are also tankers that carry molasses and other liquids.

Ships that carry oil cargoes are called—
frigates sloops tankers cruisers

How does a full tanker ride in the water?
high low out anciently

Tankers also carry—
cows molasses snow roses

---

4. Not many years ago the body a mammoth—now long extinct—was found, r- fectly preserved in ice, in northern Sib a. The people who found it were able to ck away chunks of this million-year-old meat nd have a good dinner. Modern frozen foods ay not keep for a million years, but food in ur freezer stays fresh and usable for a long ne.

Where was the body of the mammoth fo d?
Natal Nova Scotia Alaska Si ia

Approximately how many years old wa t?
ten million forty twelve

Modern frozen food should be kept in –
desk purse freezer bureau

---

5. Heat from the sun is a natural sour of energy. Man has tried in many ways to co rol it, just as he controls fire. Modern scien sts have endeavored with some success to nd ways of storing the sun's energy. They ve made a solar battery which takes in the n's rays, converts them to electric energy, nd stores that energy in a battery.

Heat from the sun is a natural source f–
water freezing energy time

What would scientists like to do with he sun's energy?
lose it store it buy it forget it

A solar battery takes in the sun's—
tide shade switch rays

---

6. The first man-made satellites will ob- ably be short-lived. They will revolve a out the earth for a brief time only. The instrum nts they carry will radio information back to rth about the upper atmosphere. In the fu re, other man-made satellites may make it pos ble for television programs to be sent from ne side of the earth to the other.

The first man-made satellites will be—
fixed short-lived permanent st.

Their instruments will radio back—
hats shrubs hose information

What programs may future satellites nd?
paper cloth television printed

The Navaho is the largest tribe of Indians the United States, numbering about 65,000. hey live on a large reservation, the greater art of which is in Arizona and New Mexico, ough it extends into Utah and Colorado. A servation is a parcel of public land set aside r a special purpose. Navaho dwellings of logs d mud are called "hogans."

The Navaho Indians live on a—
peninsula reservation cape boat

Whose land is used for a reservation?
public Disney university Nod

A Navaho dwelling is called a—
brogan tent hogan hut

Last summer I went to the Beach Club to vim. When I paid the fee, the attendant essed the palm of my hand with a violet bber stamp. While I was swimming, the color ded out. When I returned, the attendant put y hand under a violet-ray lamp. There was e stamp, plainly visible under this light. hat an easy means of identification!

What kind of stamp did the attendant use?
postage air mail green violet

While I swam, the color of the stamp—
faded stung glowed darkened

I was identified by means of a—
friend stamp fee dive

There are two main types of automatic oor openers. The air-pressure type is common buses. As you step on a plate in the floor of bus, your weight causes the air-pressure echanism to open the door. Another type has electric motor that starts when the light to "electric eye" is cut off by your body. This nd is used in railway stations.

Some automatic door openers work by—
hand mule steam air pressure

What makes air-pressure mechanisms work?
moisture weight cold dust

An "electric eye" may open—
trunks letters doors boxes

---

10. At 9:00 a.m. the school bell rings, and the children go to their classrooms. The bell for recess rings at 10:30, and in good weather the children go outside to play. At noon the lunch bell rings. Most of the children eat in the cafeteria, but several who live nearby go home. The bell rings twice at 3:30 p.m., and school is dismissed for the day.

At what time does the first bell ring?
8:45 a.m. 9:00 a.m. 10:30 a.m. noon

At noon the bell rings for—
class fire drill lunch reading

How many children have lunch at school?
several all none most

---

11. Automation is the process by which machines do automatically what you would have to do by hand. The thermostat that controls your furnace and the automatic choke in your father's car are examples of automation. Machines can be made to control other machines, even whole factories. Machines steer ships and fly planes. All this is automation.

What controls many furnaces?
fire water air thermostat

An automatic choke is an example of—
oxidation automation waste voting

Machines can be made to control other—
planets children machines lightning

---

12. Among the many courageous dogs, the St. Bernard is most widely known for its heroism. These large dogs were trained by monks in the Swiss Alps to rescue travelers lost in the snow. When they found someone, they would try to revive him and bark loudly for help. When this deep sound penetrated the stillness, the monks knew someone had been found.

For what is a St. Bernard dog known?
disorder neighing heroism laziness

By whom were these dogs first trained?
catchers monks sheriffs monkeys

For what purpose were they trained?
exhibit post stampede rescue

13. Aluminum is a common element. The metal is found in many places in the earth. It is important to us for its lightness and strength. Once it was so difficult to get the pure metal out of the rock that aluminum was of value only as a curiosity. It was first used to make a greeting card. With modern electrical furnaces, it can be produced very cheaply.

Aluminum is important for its—
speed antiquity lightness honesty

It was first used to make a greeting—
face ride noise card

In what kind of furnace is aluminum made?
oil electrical wood peat

---

14. In Wyoming, at the Jackson Hole Wildlife Range, approximately fifty buffalo and as many elk are cared for. The range consists of a large area, part of which is grassy and the remainder thickly wooded, where the animals may roam in natural surroundings. The Snake River, winding through the meadows, provides a watering place for the animals.

In Wyoming, there is a range for—
cooking rifles wildlife darts

Approximately how many elk live there?
12 25 100 50

What does the Snake River provide?
coral water sugar snakes

---

15. Frozen foods stay fresh a long time if they are kept solidly frozen. Modern refrigeration equipment freezes foods solid so quickly that no flavor or food value is lost. A few foods, like lettuce, are spoiled by freezing. But some foods are improved by it. Pies, cakes, and cookies that have been frozen may taste better than those that have not.

Frozen foods stay fresh if kept—
warm moving thawed frozen

What freezes foods solid very quickly?
baking refrigeration trays eating

Freezing will spoil—
lettuce cookies pies cakes

16. In the single-engined jet plane, the engine and other equipment take up most of the space in the body. Such jets have very little room for the pilot and rarely can carry passengers. To increase the load-carrying capacity of a jet, it is usually necessary to mount jet motors in both wings. These mountings are commonly referred to as "pods."

In a jet, equipment takes up most of the—
space oxygen time attention

A single-engined jet rarely carries—
wings passengers engine pilot

Jet motors mounted in both wings of the plane are called—
beans earth strings pods

---

17. Mary received a subscription to *Life* magazine for Christmas. John requested a subscription to *The National Geographic Magazine*. *Life* is issued weekly, so Mary will have fifty-two copies by the end of the year. John will have twelve, since the *Geographic* is published monthly. They plan to exchange their copies so each may enjoy the other's gift.

What did Mary receive for Christmas?
dictionary ax subscription pony

The National Geographic is issued—
monthly daily weekly annually

What will they do with their copies?
sell exchange bind file

---

18. Do-it-yourself kits are popular today, but the idea is older than our civilization. Most boys and girls have tried, at one time or another, to make things by themselves. Today the services of skilled craftsmen are sometimes difficult to get quickly. Many people find they save time by making things and doing their own repairs and improvements.

The do-it-yourself idea is—
foolish old expensive unfair

Do-it-yourself kits have become very—
foreign tiny joyful popular

The do-it-yourself system saves—
tools kits water time

Upper Primary • GRADES 3 and L4 • Form W

California Reading Test

W X Y Z SERIES

DEVISED BY ERNEST W. TIEGS AND WILLIS W. CLARK

U
P
W

TO BOYS AND GIRLS:

This booklet has some games you will like. They will show how many words you know and how well you can read. Do as many of them as you can.

DO NOT TURN THIS PAGE UNTIL TOLD TO DO SO.

1957 EDITION

11th Printing

BLISHED BY CALIFORNIA TEST BUREAU, DEL MONTE RESEARCH PARK, MONTEREY, CALIFORNIA
ANCH OFFICES: NEW CUMBERLAND, PA.; MADISON, WIS.; DALLAS, TEXAS–

TEST 1—SECTION A

DIRECTIONS: Look at the boxes below. I shall read one word in each box. You are to draw a line under it.

Sample A	Sample B
go have run	ball this come

Diagnostic Notes

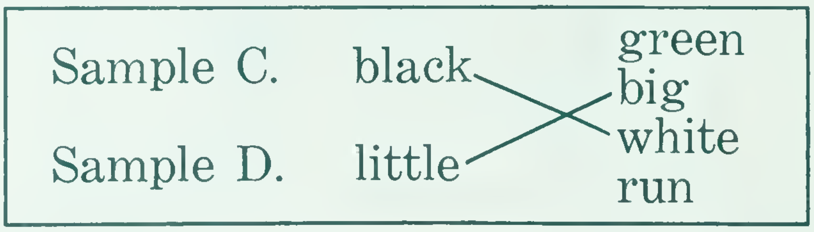
1. dog my little	2. THIS THEN THAT	3. goat got gun	4. read red ride
5. house horse hours	6. gnash gnarl gnat	7. DECREASE DEPART DECIDE	8. STRAW STRAY SPRAY
9. sing sign sight	10. promise purchase purpose	11. *like* *hike* *bike*	12. strong poise string
13. protect protest protein	14. feel fail foul	15. breathe breath being	16. train trail trial
17. PROMISE PROMOTE PRODUCE	18. should shoulder soldier	19. THOROUGH THROUGH THOUGH	20. POSTURE POSTER PASTURE

Test 1 — Sec. A Score
(number right)

TEST 1—SECTION B

2

DIRECTIONS: Look at the boxes below. See the words with numbers in front of them. You are to draw a line from each of these words to the word on the other side which means the opposite.



1. cold	and warm
2. go	come which

3. good	first bad
4. sad	happy hard

5. up	above last
6. first	went
7. came	down poor

8. kind	harmless harmony
9. pretty	beautiful
10. harmful	cruel ugly

11. bring	before take
12. behind	sad
13. glad	believe train

14. division	finished helmet
15. started	helpful
16. helpless	multiplicatio divisor

17. outside	silent address
18. aloud	powerful
19. powerless	inside pointless

20. rough	numb gentle
21. straight	noisy
22. silent	pleasure crooked

23. true	ignorant false
24. lazy	careful
25. careless	quiet industrious

Test 1 — Sec. B Score
(number right)..........................

TEST 2—SECTION C

DIRECTIONS: Read each sentence below and do what it says.

Sample E. Draw a line under this word: run

Diagnostic Notes

1. Write this word: ***boy*** ______

2. Draw a line under this letter: B

3. Write the missing letter in this word:
   d__g dog

4. Draw a line under one of the words below:
   girl this blue kite

5. Write a word that begins with **b.**
   ______

6. Put an 0 after this 6 ___

7. Cross out all of the numbers:
   G 4 H 6 R K

8. Draw a line under the name of the largest animal:
   goat dog elephant horse

9. Cross out a letter to make **his** out of this word: **this**

0. Write the number that is two times five on this line: ______

Diagnostic Notes

11. Put a question mark at the end of the sentence below:

When will he come

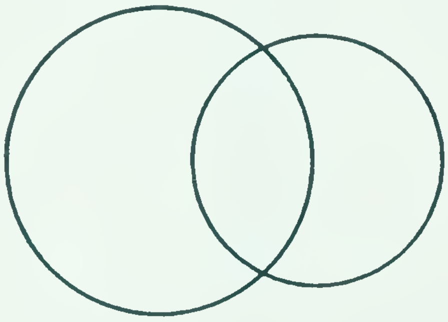
12. Write the first letter of this sentence on this line:________

13. Draw a line above the letter I, put a circle around the letter P, and draw a line under the letter M in the row below:

G H I J K L M N O P Q R

14. Cross out all of the words that end with s in sentence number 14.

15. Write the third word of ***this*** sentence in the large circle only. Put the last letter of the second word in ***this*** sentence in the part that is in both circles.



Test 2 — Sec. C Score
(number right)..........................

TEST 2—SECTION D

DIRECTIONS: Read the following questions and problems. Draw a line under each correct answer.

Diagnostic Notes

The title is found in what part of a book?

beginning   middle   end

The index of a book is found in the

beginning.   middle.   end.

The word ***night*** is found in what part of the dictionary?

beginning   middle   end

The word ***color*** is found in what part of the dictionary?

beginning   middle   end

Read this list of words and find the answers to questions 5, 6, 7, and 8.

swing
animal
now
pack
letter
stroke
own
peck
forest
strike

If the above words were arranged alphabetically,

forest would come next after

animal.   peck.   stroke.

stroke would come next after

swing.   strike.   letter.

pack would come next after

forest.   own.   peck.

own would come after

peck.   swing.   animal.

Diagnostic Notes

✓ Look at the following Table of Contents and find the answers to questions 9, 10, and 11.

TABLE OF CONTENTS

Chapter		Page
1.	A Bird's Nest	1
2.	The Baby Wrens	7
3.	The Robin	15
4.	A Mole's Home	31
5.	Buzzy, A Little Beaver	45

9. Draw a line under the number of the page which shows where "Buzzy, A Little Beaver" begins.

31 45 46

10. Page 9 will tell us something about

nests. wrens. Buzzy.

11. The story of "The Robin" is found on pages

15 through 30. 15 through 31.

31 through 44.

✓ Look at this partial index and find the answers to questions 12 and 13.

INDEX

Resources of the community, 132-139.

You and the community: helping your community, 118-121; other workers in a community, 112-115; planning in a community, 97-104; working in a community, 106-110.

12. Draw a line under the number which shows on what page information concerning other workers in a community may be found.

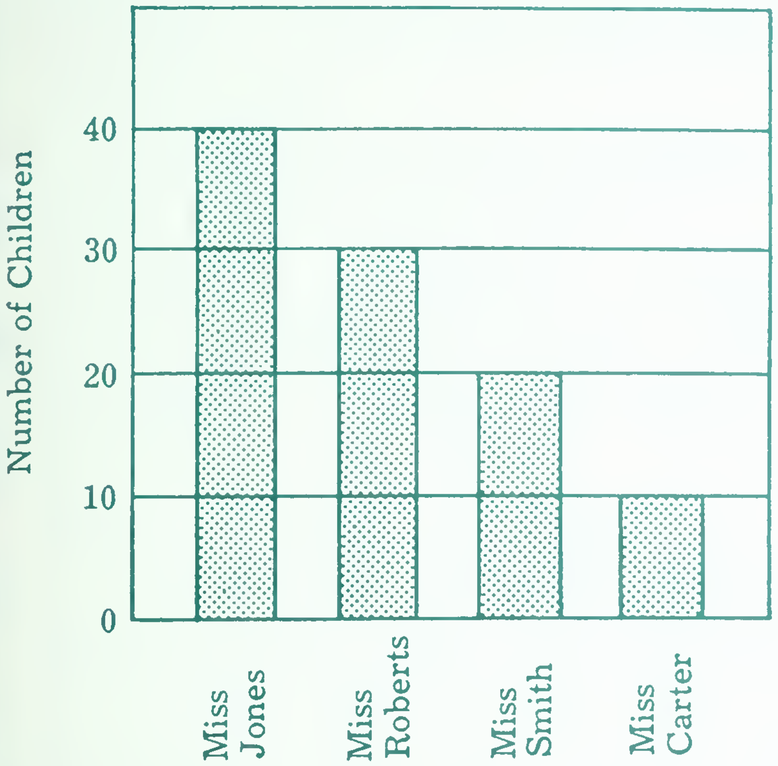
110 112 116

13. Information on page 108 will be about

other community workers.
working in a community.
community planning.

Look at the graph below and find the answers to questions 14 and 15.

Diagnostic Notes



Number of Pupils in Four Classes

Draw a line under the number that tells how many children are in Miss Jones' class.

20 30 40

Draw a line under the number that tells how many children are in the four classes.

10 50 100

Test 2 — Sec. D Score
(number right)

5

DIRECTIONS: Read each of the stories. Do what it says under each story

Diagnostic Notes

Jim has a goat.
The goat's name is Billy.
Nell has a rabbit.
The rabbit's name is Pinky.

✓ Draw a line under each correct answer.

1. The best name for this story is
   "The Toys." "The Pets."
   "The Girls."
2. Jim has a
   rabbit. goat. dog.
3. Pinky is the name of a
   kitty. rabbit. goat.
4. Billy is the name of the
   goat. boy. rabbit.
5. The rabbit belongs to
   Jim. Mother. Nell.

Sam said, "See my wagon.
Its name is Flyer."
Harry said, "May I play with Flyer?"

6. Draw a line under the best sentence to finish the story.
   Sam said, "Give Flyer to me."
   Sam said, "Yes, you may play with Flyer."
   Sam said, "Flyer can jump."

✓ Draw a line under each correct answer.

7. The wagon belongs to
   Harry. Flyer. Sam.
8. The best name for this story is
   "Sam's Wagon." "Flyer Can Run."
   "The Water."
9. Sam (asked told) something.
10. Harry (asked told) something.

Diagnostic Notes

Once there was a little girl named Bess. e visited her grandfather, who lived near ircus. There were many elephants, monys, and lions in the circus. She liked the nkeys best.

Draw a line under each correct answer.

The best title for this story is
“The Ants.” “The Boys.” “A Circus.”

Bess’ grandfather lived near a
mountain. hill. circus.

Bess was
little. large. sad.

The animals the little girl liked best were
the elephants. the monkeys. the lions.

The children in Mr. Bruce’s room talked ut what the birds in the park could find eat. They decided to find out what the ds did eat. Robert brought a book to read ut the birds. Freddie brought his canary d. Nancy went to the park to see the birds. ey found that some of the birds eat insects. netimes birds eat the seeds of the weeds. ey eat plants. They eat bugs and insects ich harm the gardens.

Draw a line under the best sentence to finish the story.

The children decided that birds do not eat seeds.

The children decided that birds do not eat plants.

The children decided that birds are useful to man.

Draw a line under each correct answer.

Robert was going to find out about the birds by
reading a book.
going to the park.
bringing a bird.

The children were
busy. lazy. playing.

Diagnostic Notes

When grains of corn are planted in the spring, they will grow if they have warm sunshine and rain. Sometimes the farmer irrigates his land if there is not enough rain. The fields must be cultivated during the summer. In the autumn, the corn is ripe and is put in the barn.

✓ Draw a line under each correct answer.

18. To grow, corn must have
    warmth and moisture.
    cold and shade.
    a hot, dry climate.

19. Raising corn requires
    no care. very little care.
    considerable care.

20. **To irrigate** means
    to plant. to water. to harvest.

21. In this story, ***ripe*** means the opposite of
    gray. ready. green.

22. In this story, ***autumn*** means the same as
    winter. fall. summer.

The following things are told in the story:

Fields must be cultivated.
The corn is put in the barn.
The corn is planted in the spring.

✓ Draw a line under the number that tells the order in which the above things are told in the story.

23. "Fields must be cultivated" was
    1st. 2nd. 3rd.

24. "The corn is put in the barn" was
    1st. 2nd. 3rd.

25. "The corn is planted" was
    1st. 2nd. 3rd.

Test 2 — Sec. E Score
(number right) ....

WORD FORM

DIRECTIONS: Look at the words below. If two words are the same or mean the same, write S on the line between them. If they mean different things, write D.

Sample F. dog __*S*__ dog
Sample G. boy __*D*__ girl

Diagnostic Notes

1. can ________ can
2. the ________ us
3. teach ________ when
4. was ________ saw
5. rich ________ rich
6. dab ________ bad
7. tab ________ bat
8. though ________ through
9. closed ________ closed
10. chair ________ chain
11. *sent* ________ *sent*
12. *this* ________ *these*
13. *store* ________ *store*
14. *protection* ________ *prediction*
15. RILL ________ SILL
16. INCLINE ________ INCLINE
17. REPORT ________ RESORT
18. INVITE ________ invite
19. *process* ________ POSSESS
20. residential ________ *residential*
21. *country* ________ *county*
22. HEMISPHERE ________ HEMISPHERE
23. CHANGE ________ charge
24. *suspension* ________ *sustention*
25. propeller ________ *propeller*

Score
(number right)

California Reading Test

Upper Primary • GRADES 3 and L4 • Form W

DEVISED BY ERNEST W. TIEGS AND WILLIS W. CLARK

Name .... Last .... First .... Middle

School .... City ....

Teacher or Examiner .... (........) Pupil's Age

Grade ....

(Circle one) Boy Girl

Date of Test .... Month .... Day .... Year

Date of Birth .... Month .... Day .... Year

See MANUAL for instructions.

TEST	SECTION	POSSIBLE SCORE	PUPIL'S SCORE
1. READING VOCABULARY	A. Word Recognition	20	
	B. Meaning of Opposites	25	
	TOTAL (A + B)	45	
2. READING COMPREHENSION	C. Following Directions	15	
	D. Reference Skills	15	
	E. Interpretation of Material	25	
	TOTAL (C + D + E)	55	

READING GRADE PLACEMENT ....

CHRONOLOGICAL AGE GRADE PLACEMENT ....

ACTUAL GRADE PLACEMENT ....

INTELLIGENCE, (M.A.) GRADE PLACEMENT ....

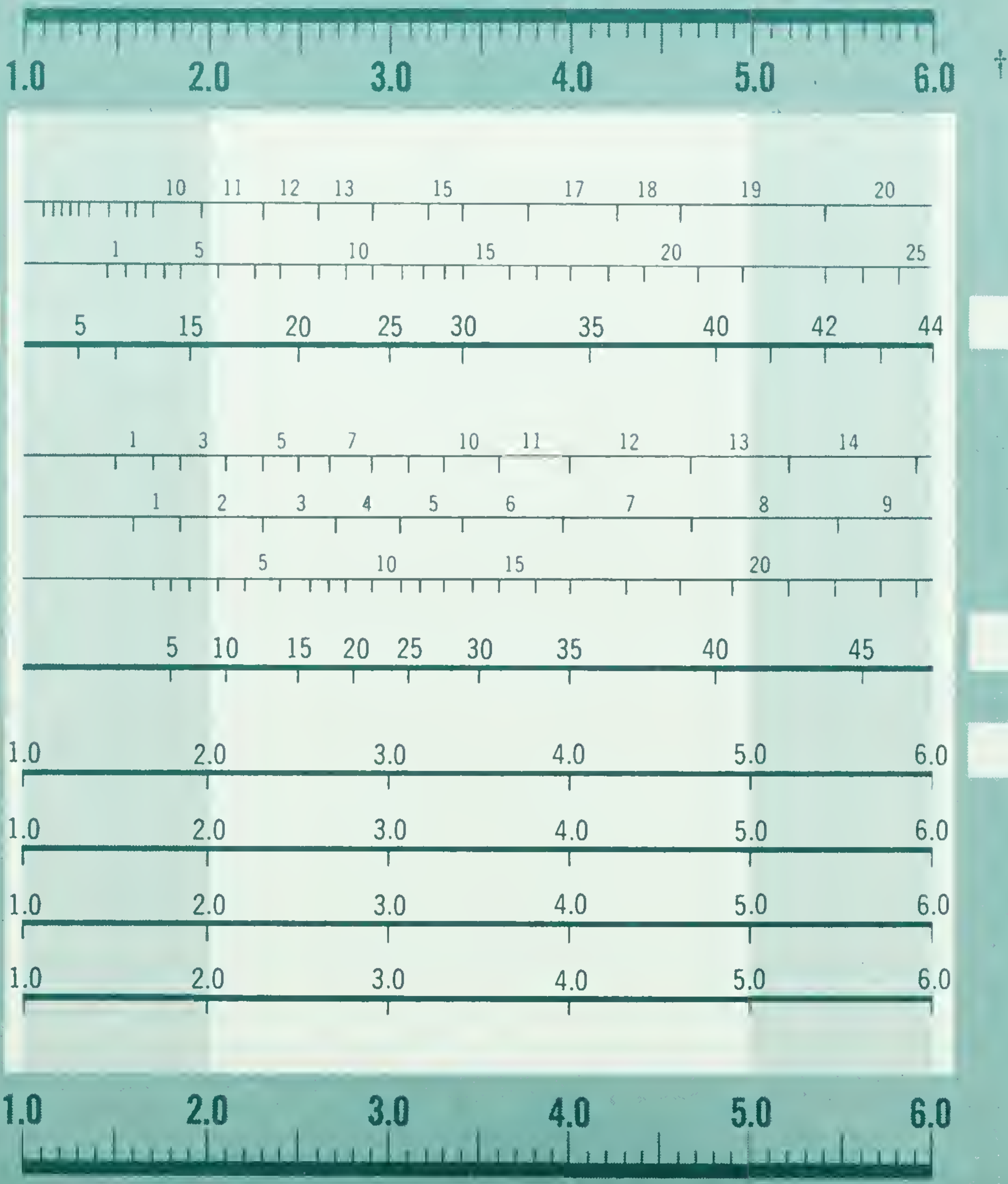
Grade Placement

Percentile Rank

DIAGNOSTIC PROFILE*

(Chart Pupil's Scores Here)

Grade Placement



DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES

1. Reading Vocabulary

A. WORD FORM:

	1, 12	Gross differences
	2, 3, 6, 7, 8, 9, 10, 13, 15, 16, 17, 18	Final sounds
	4, 5, 14, 19, 20	Middle sounds
	11	Initial sounds

B. MEANING OF OPPOSITES:

	1-25	Basic vocabulary

2. Reading Comprehension

C. FOLLOWING DIRECTIONS:

	1, 2, 3, 6, 10, 11	Simple directions
	4, 5, 7, 8, 9, 12, 13, 14, 15	Directions requiring choice

D. REFERENCE SKILLS:

	1, 2	Parts of book
	3, 4	Use of dictionary
	5, 6, 7, 8	Alphabetizing
	9, 10, 11	Table of contents
	12, 13	Use of index
	14, 15	Reading a graph

E. INTERPRETATION OF MATERIAL:

	1, 8, 11	Topic or central idea
	2, 3, 4, 12, 13, 14, 16	Directly stated facts
	5, 6, 7, 9, 10, 15, 17, 18, 19, 20, 21, 22	Inferences
	23, 24, 25	Sequence of events

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*For an interpretation of green area within Profile, see discussion on Articulation in Part 4 of Manual.

†Column designed for recording Expected Grade Placements, Anticipated Grade Placements, School or Class Averages, etc. See Part 2 of Manual.

PUBLISHED BY CALIFORNIA TEST BUREAU

TIS QUICK-SCORING MENTAL ABILITY TESTS

SCORES	
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By Arthur S. Otis, Ph.D.
Formerly Development Specialist with Advisory Board,
General Staff, United States War Department

ALPHA TEST: FORM B

For Grades 1-4

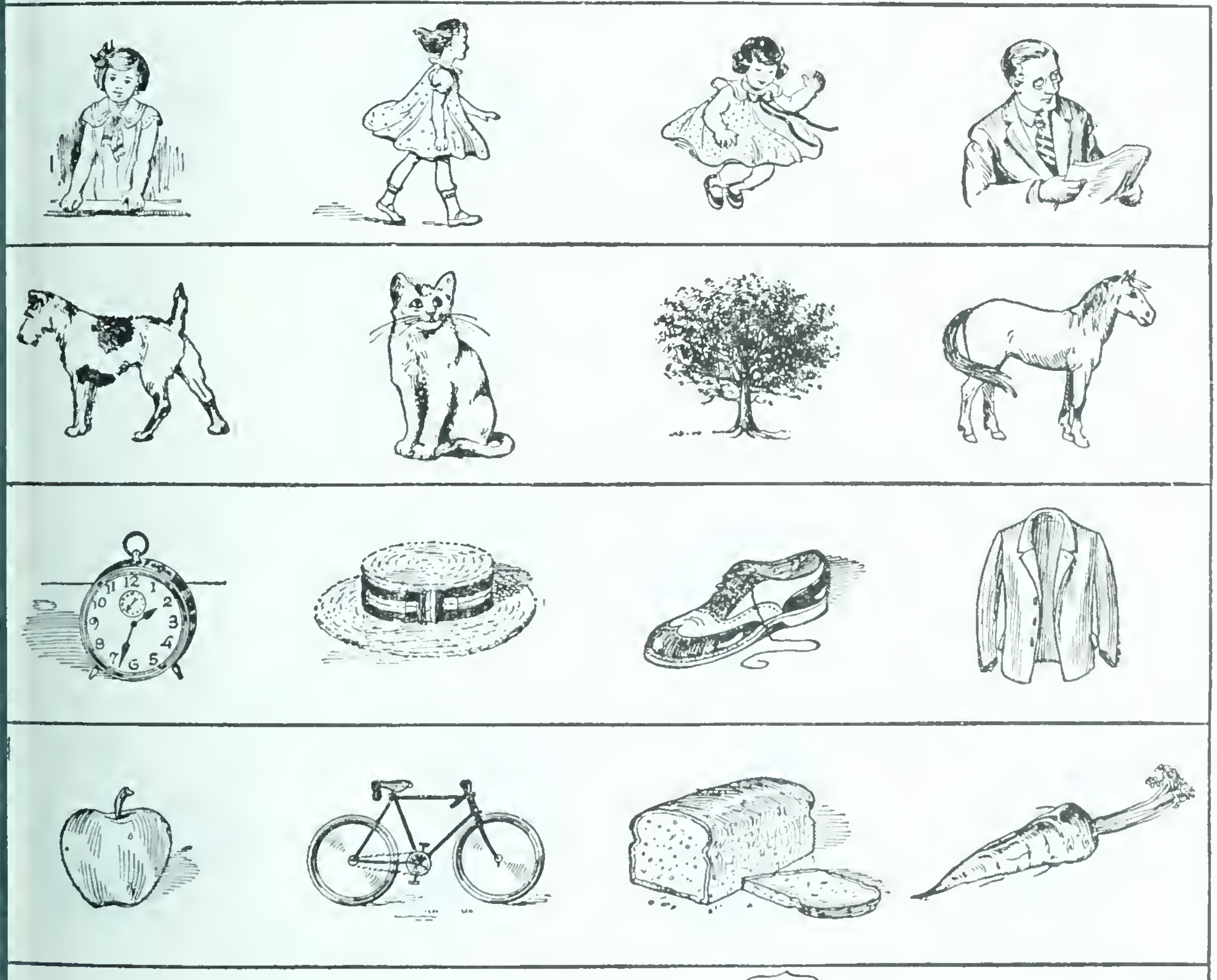
Alpha
B

IQ. . . . .

me. . . . . Age. . . . . Grade. . . .

acher. . . . . Date . . . . 19. . . .

ool . . . . City . . . .



Published by World Book Company, Yonkers-on-Hudson, New York, and Chicago, Illinois

PRINTED IN U.S.A. ALPHA:B 28

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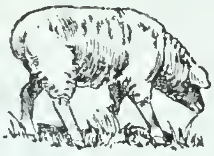
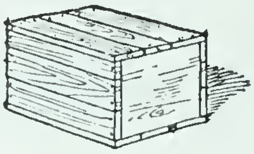
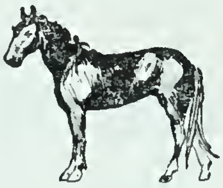


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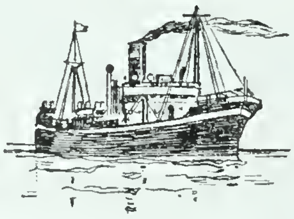
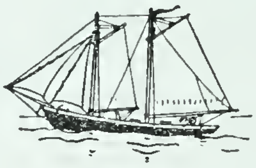


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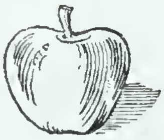

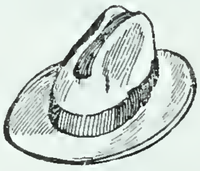
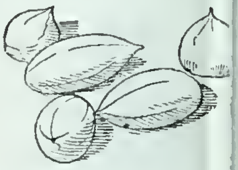

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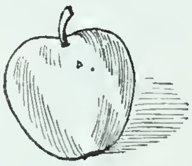


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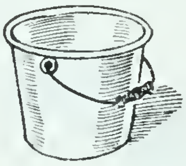

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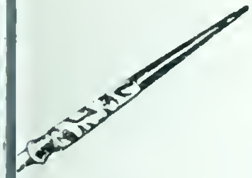
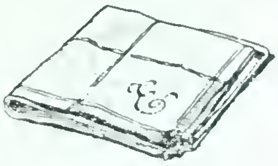

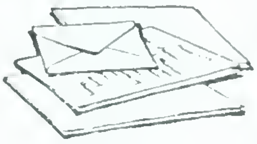
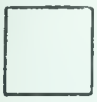
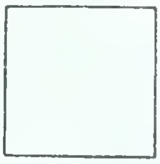
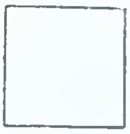
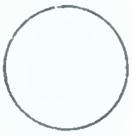
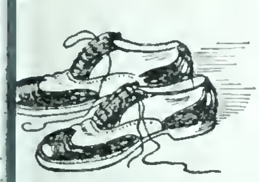

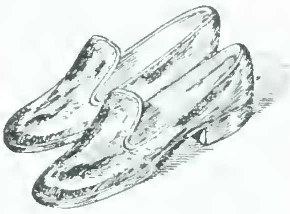

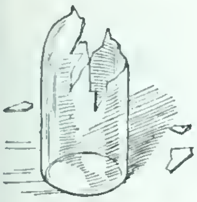

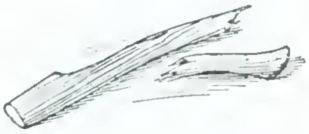

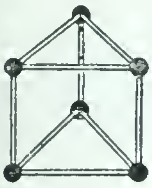
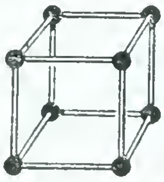
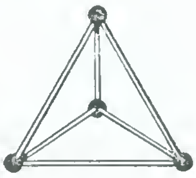
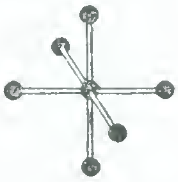
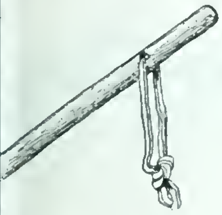
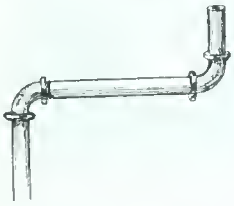
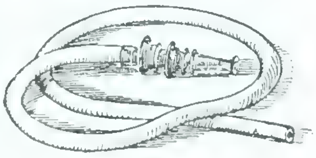
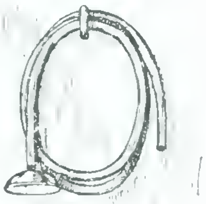
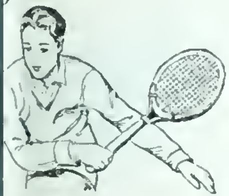



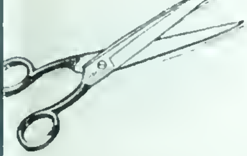
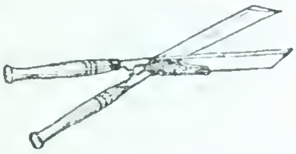
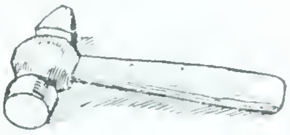
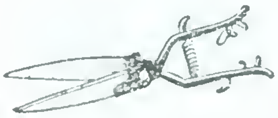
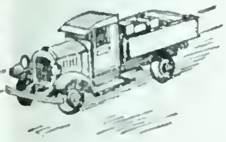


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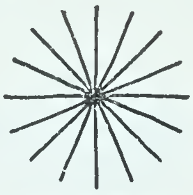


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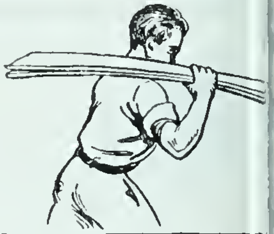

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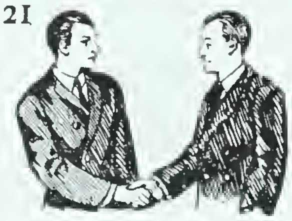
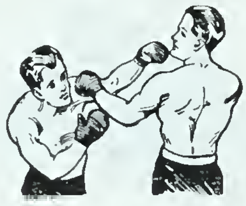
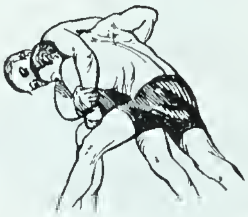


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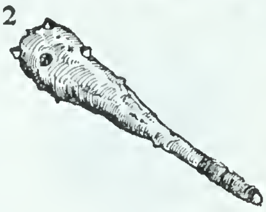
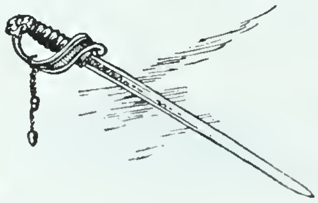

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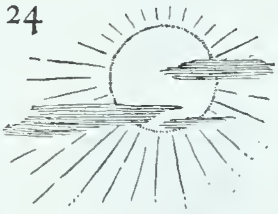
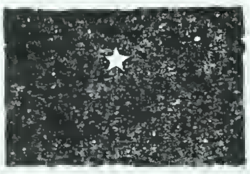

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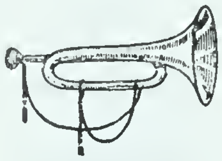

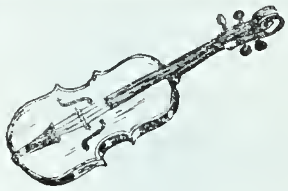
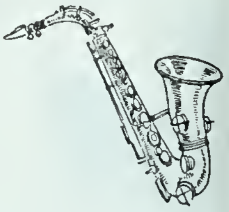

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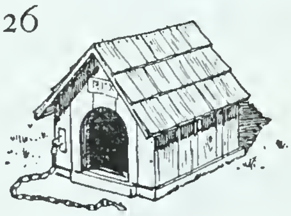
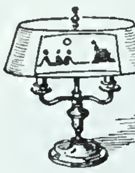
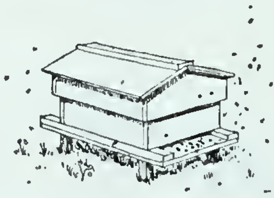


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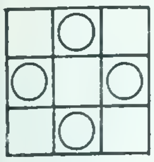
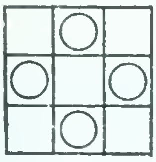
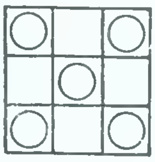
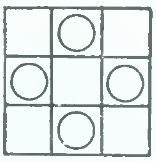

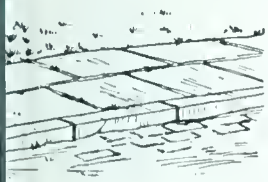
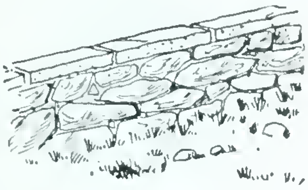
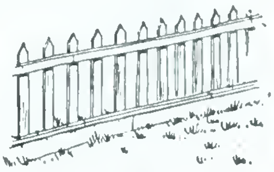
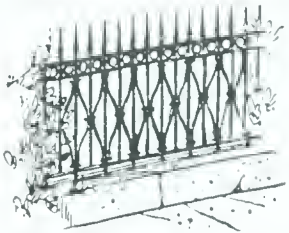









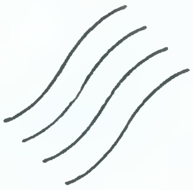
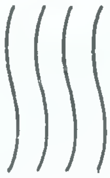

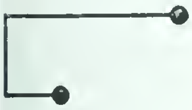

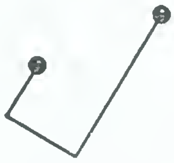


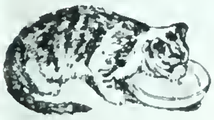


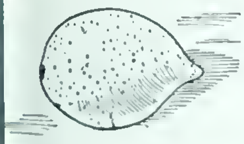

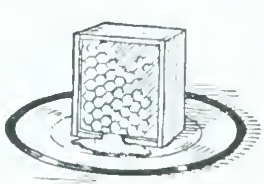
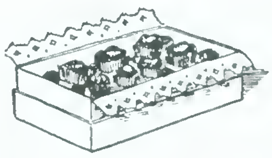




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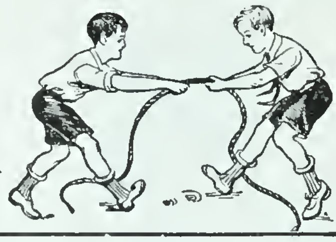

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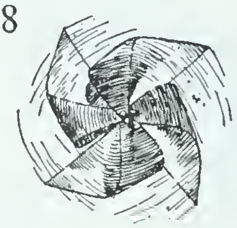
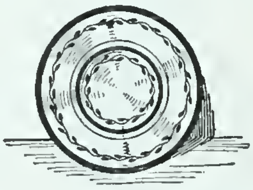

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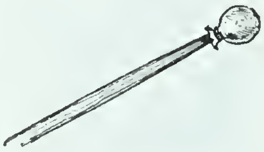
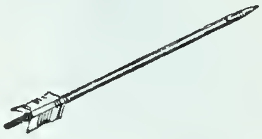
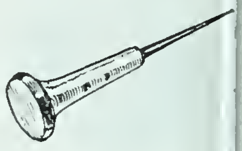

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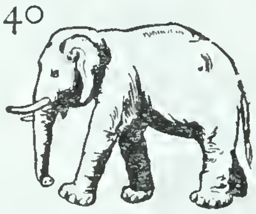

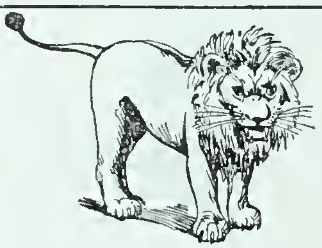


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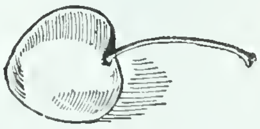


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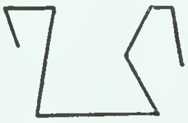
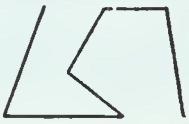
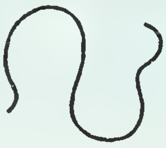


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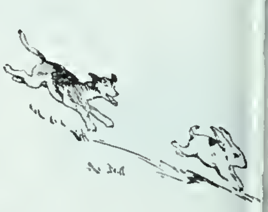

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45

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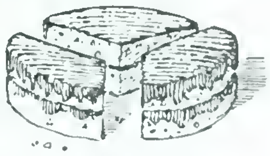





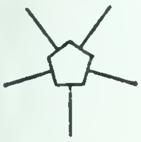
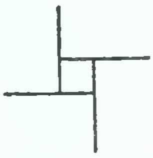
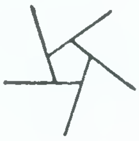





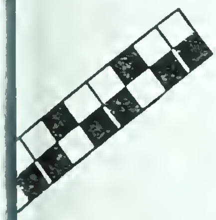
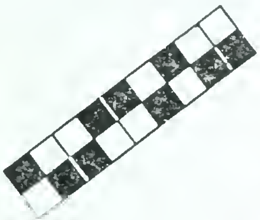

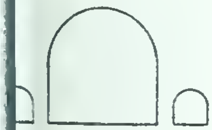
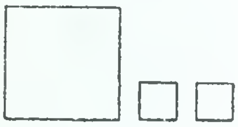
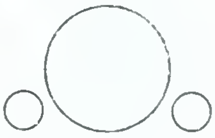


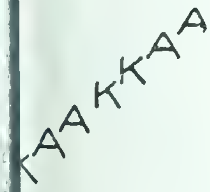
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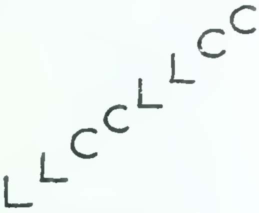
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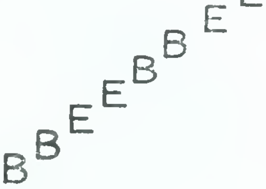
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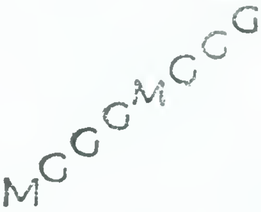
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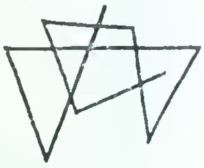
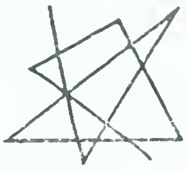
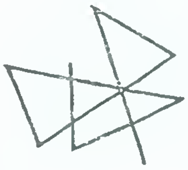

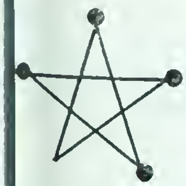

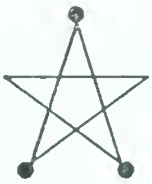
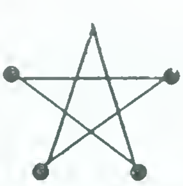

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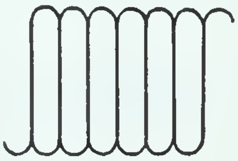
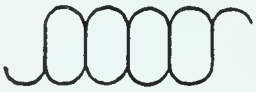
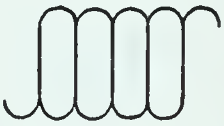
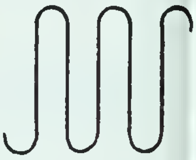

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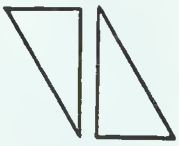
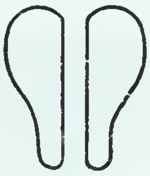
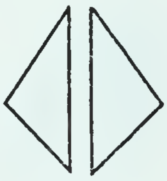
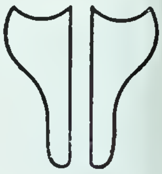

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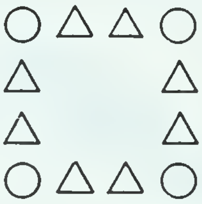

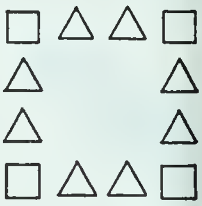

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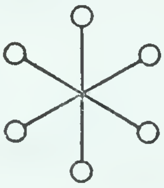
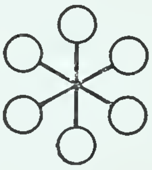
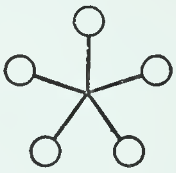
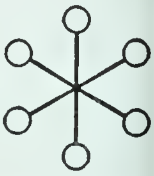

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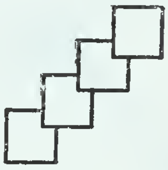
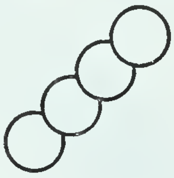


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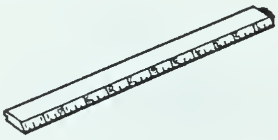

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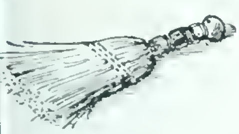
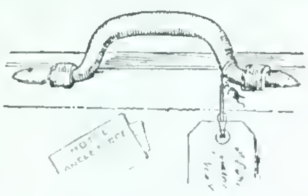
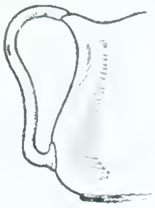
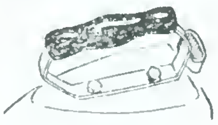

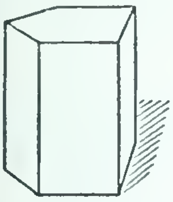
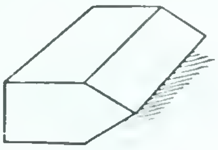
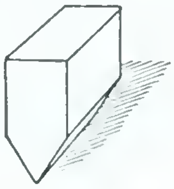
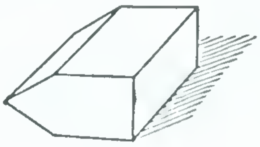

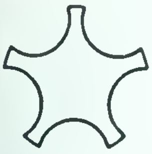
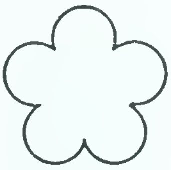
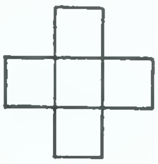
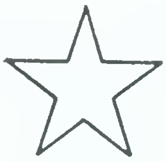

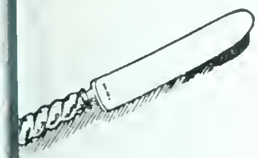
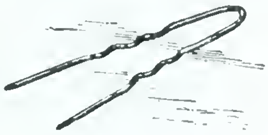
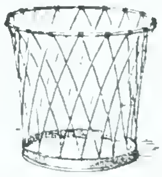




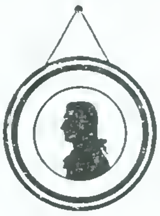


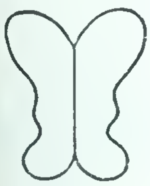
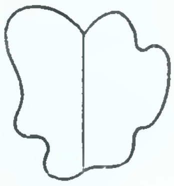
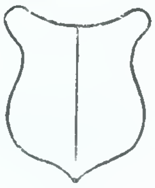
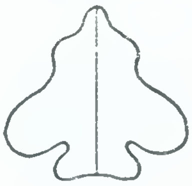

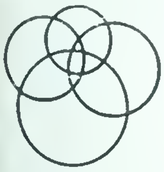
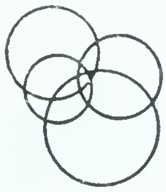
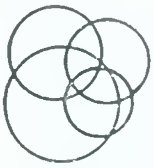
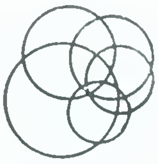

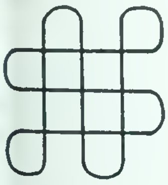
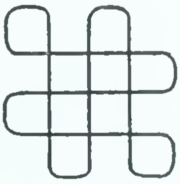
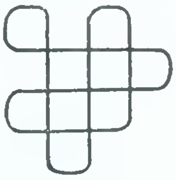
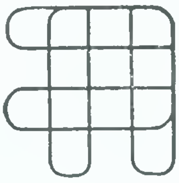


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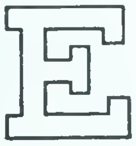
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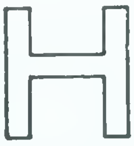
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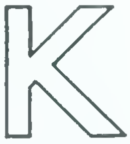
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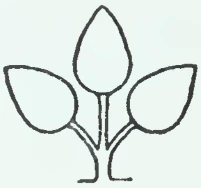


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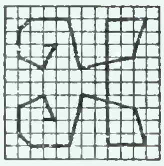
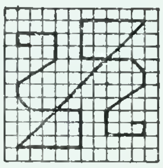
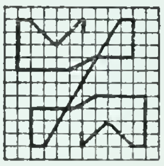
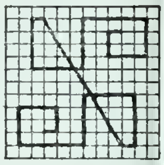

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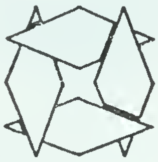
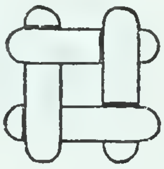
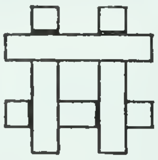
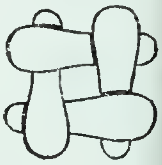

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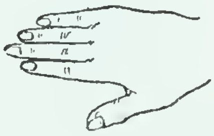


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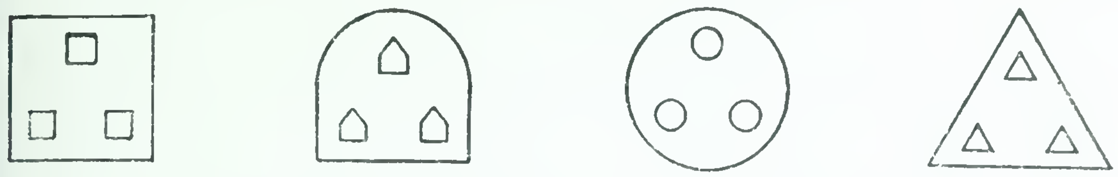

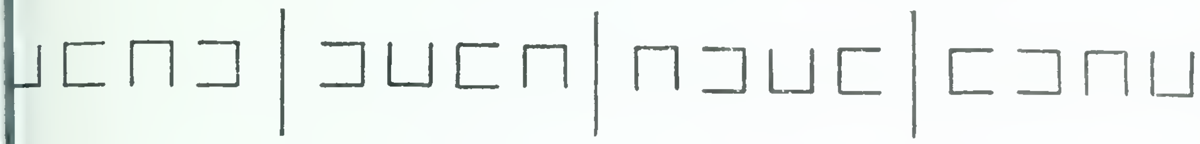

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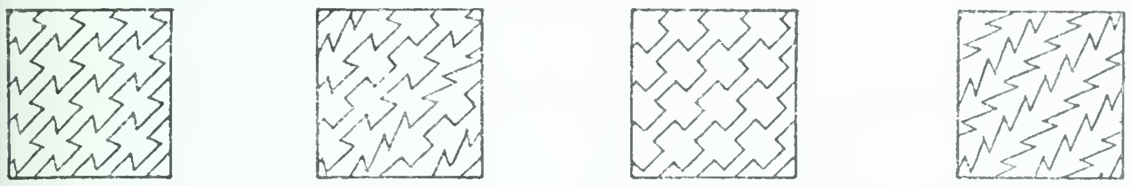

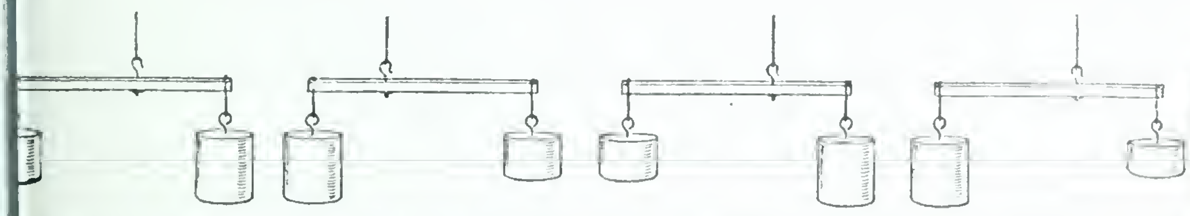

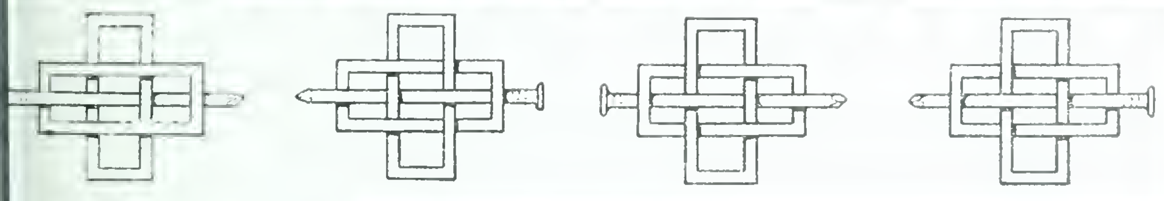

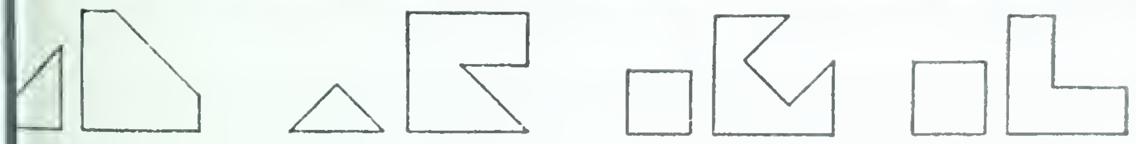

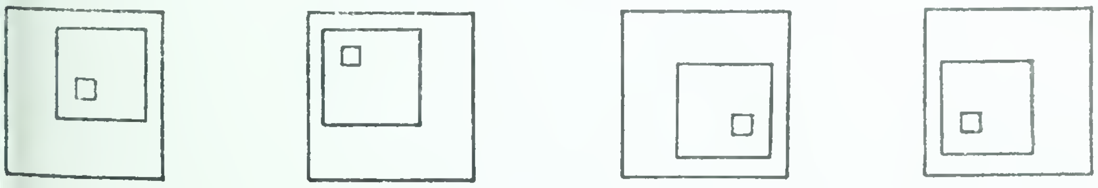

THE NELSON SILENT READING TEST

Vocabulary and Paragraph

For Grades 3 to 9 — Forms A, B, and C

By M. J. Nelson, Ph.D., Dean of the Faculty, Iowa State Teachers College, Cedar Falls, Iowa

TEACHER'S MANUAL

DESCRIPTION AND NORMS

ırpose and Nature of the Tests. These tests are designed to s a measure of the reading ability of pupils in Grades III to IX ːe, and to serve as a diagnostic instrument for determining pupil ties. Three forms of the tests are available. These are identical culty and in construction, each consisting of a vocabulary test paragraph test. The Vocabulary Test consists of one hundred in five-response type, while the Paragraph Test consists of -five paragraphs, each followed by three questions concerning the t of the paragraph, the question being in the four-response form.

Paragraph Test measures three phases of reading ability, as :

bility to understand the general significance of a paragraph
bility to note details
bility to predict the probable outcome

distinctive features of the Paragraph Test are: (a) questions ing each of the three phases of ability are based on the same para- hence each ability is measured by the same instrument; and (b) ee types of questions appear in varying order, so that any particu- ind-set" is avoided, thus presenting a natural reading situation.

n question intended to measure the ability to understand the l significance of a paragraph is indicated by use of the letter questions dealing with ability to note details are marked "B"; ose having to do with the probable outcome are marked "C." nakes it possible to get a separate score for each ability and still he questions arranged in varying sequence for each paragraph.

teacher thus is provided with an indication of the individual weaknesses and strengths in reading. The highest possible n the Vocabulary Test is 100 and on each part of the Paragraph 5. Thus the maximum score that can be made is 175.

time limit for the vocabulary test is 10 minutes; for the para- test, 20 minutes. In view of the time required for distribution ers and for directions, it is advisable to set aside a forty-minute . The time limits are such that most of the pupils will do about ny exercises as they are able to do. The "power" of the pupil s the chief factor measured, although speed of reading is not a negligible factor in the pupil's performance.

h form of the test consists of two parts, the Test Folder and the r Booklet. The pupil records all of his responses on the Answer et, leaving the Test Folder entirely as it was. The Test Folder us be used again and again, necessitating only the purchase of onal Answer Booklets. Since the Clapp-Young Self-Marking e is used, the tests can be scored in a remarkably short time.

alidity and Reliability. The curricular validity of these tests ıred by the method of construction and by experimentation. ems in the Vocabulary Test are constructed entirely of words ap- g in the Thorndike Word Book and in Horn's Basic Writing ulary. The words in items 1 to 50 inclusive appear in both lists, as the remaining words appear in at least one of the lists. In the raph Test all of the words in the first twenty-two paragraphs ap- n one of the lists, while in the last three paragraphs there are a ew words which do not appear in either list, but which do not undue difficulty for good readers. In constructing Forms A and B hundred items were originally tried for the Vocabulary Test and e hundred comprising each form were chosen from those that nost satisfactory from the standpoint of difficulty and from the point of distinguishing between good and poor readers. The l number of paragraphs was seventy-four, of which number fifty hosen for the two forms of the test. Similar care was used in ucting Form C, which was issued and administered in two mimeo- ed editions and in one printed edition in order to insure equiva- o Forms A and B. The materials are for the most part original, though three or four of the more difficult paragraphs in each form are adapted from stories not often read by pupils in the elementary school. The selections of poetry are from Scott's "The Lord of the Isles" and "Harold the Dauntless." By using materials with which pupils would scarcely have an opportunity to become familiar in advance of the test, a more uniform opportunity is provided for all pupils.

Validity of the tests is also indicated by their correlation with other reading tests. The correlation between Form A of this test and Form V of the Stanford Achievement Test, where both were given in grades 5A and 5B to 112 pupils, was r = .83; while the correlation with Form A of the Gates Silent Reading Test was r = .80.

The reliability for each grade group has been determined by correlating the scores earned on Form A with those earned on Form B and later by correlating scores earned on Form A with those earned on Form C. Form A was in each case administered first in grades 3, 5, 7, and 9; the other form was administered first in grades 4, 6, and 8. The reliability coefficients, standard deviations, and the probable error of a score as thus determined are indicated in Table I.

Table I

Reliability Coefficients, Standard Deviations, and Probable Error of Scores of each Grade Level

Grade	3	4	5	6	7	8	9
(From Forms A and B)							
Coefficient of Reliability	.90	.92	.91	.90	.89	.87	.87
Standard Deviation	15	18	20	21	18	18	18
Probable Error of Score	3	3	4	4	4	4	4
(From Forms A and C)							
Reliability Coefficients	.90	.93	.91	.89	.93	.91	.89
Standard Deviation	17	19	22	22	21	19	18
Probable Error of Score	4	3	4	5	4	4	4

The probable error of a score is determined from the formula, P.E. Score = $.6745\sigma\sqrt{1-r}$. To illustrate the significance of this measure, let us suppose that a pupil in fifth grade makes a score of 48. Since the probable error of a score at this level is approximately 4 points, the chances are even that the score which this pupil really deserved lies somewhere between 44 (48 minus 4) and 52 (48 plus 4). For a more detailed account of the significance of reliability coefficients and other statistical terms, see any good textbook in educational measurement or educational statistics.

3. Norms. Norms for this test are based upon the testing of approximately 41,000 cases selected from various parts of the United States and from schools varying in size. In Table II the average scores for the various parts of the test are indicated. These represent scores made at the beginning of the school year.

Table II

Median Scores Made in the Various Sections of the Test at the Beginning of the School Year

Grade	*Vocabulary Test*	*Paragraph Test* *Section A*	*Section B*	*Section C*	*Total*
III	12	4	4	3	23
IV	21	7	7	6	41
V	30	10	10	9	59
VI	38	12	12	12	74
VII	44	13	13	13	83
VIII	51	15	15	14	95
IX	56	17	17	16	106

Those who wish to convert the total scores on the test into reading-age equivalents or school-grade equivalents may do so by referring the scores to Table III. In the column headed "Grade Equivalent" the figure 10.0 refers to the level of achievement shown by the average pupil just entering 10th grade; 9.6 refers to the achievement shown by the average pupil of 9th grade who has been in that grade for six months; etc.

Table III

READING-AGE AND GRADE-EQUIVALENTS OF THE VARIOUS SCORES

Score	Reading-Age Equiv. Yrs Mos.	Grade Equiv.	Score	Reading-Age Equiv. Yrs. Mos.	Grade Equiv.	Score	Reading-Age Equiv. Yrs. Mos.	Grade Equiv.
150	17–0		102	14–8	8.7	54	10–7	4.6
149	17–0		101	14–7	8.6	53	10–6	4.5
148	16–11		100	14–6	8.5	52	10–5	4.4
147	16–11		99	14–5	8.4	51	10–4	4.4
146	16–10		98	14–3	8.3	50	10–3	4.3
145	16–10		97	14–2	8.2	49	10–2	4.3
144	16–9		96	14–0	8.1	48	10–2	4.3
143	16–9		95	13–11	8.1	47	10–1	4.2
142	16–8		94	13–9	7.9	46	10–0	4.1
141	16–8		93	13–8	7.8	45	10–0	4.1
140	16–7		92	13–7	7.8	44	9–11	4.1
139	16–7		91	13–6	7.7	43	9–10	4.1
138	16–6		90	13–5	7.6	42	9–10	4.0
137	16–6		89	13–3	7.5	41	9–9	3.9
136	16–5		88	13–1	7.4	40	9–8	3.9
135	16–5		87	13–0	7.3	39	9–7	3.8
134	16–4		86	12–10	7.1	38	9–6	3.7
133	16–4		85	12–9	7.0	37	9–6	3.7
132	16–3		84	12–8	7.0	36	9–5	3.6
131	16–3		83	12–7	6.8	35	9–4	3.6
130	16–2		82	12–6	6.7	34	9–3	3.5
129	16–2		81	12–5	6.6	33	9–2	3.4
128	16–1		80	12–4	6.5	32	9–2	3.4
127	16–1		79	12–3	6.4	31	9–1	3.3
126	16–0		78	12–2	6.3	30	9–0	3.3
125	16–0		77	12–1	6.2	29	8–11	3.2
124	16–0		76	12–0	6.2	28	8–10	3.2
123	15–11		75	11–11	6.1	27	8–9	3.1
122	15–11	10.0	74	11–10	6.0	26	8–8	3.1
121	15–10	9.9	73	11–9	5.9	25	8–7	3.1
120	15–10	9.9	72	11–8	5.8	24	8–6	3.0
119	15–9	9.8	71	11–7	5.7	23	8–5	3.0
118	15–9	9.8	70	11–7	5.7	22	8–4	2.9
117	15–8	9.7	69	11–6	5.7	21	8–3	2.9
116	15–8	9.7	68	11–5	5.6	20	8–2	2.8
115	15–7	9.6	67	11–5	5.6	19	8–1	2.8
114	15–6	9.6	66	11–4	5.5	18	8–0	2.8
113	15–6	9.5	65	11–3	5.4	17	7–11	2.7
112	15–5	9.4	64	11–3	5.4	16	7–10	2.7
111	15–4	9.3	63	11–2	5.3	15	7–9	2.6
110	15–4	9.3	62	11–2	5.3	14	7–8	2.6
109	15–3	9.2	61	11–1	5.2	13	7–7	2.6
108	15–2	9.2	60	11–0	5.1	12	7–6	2.5
107	15–1	9.1	59	10–11	5.0	11	7–5	2.5
106	15–0	9.0	58	10–10	4.9	10	7–3	2.4
105	14–11	8.9	57	10–10	4.9	9	7–2	2.3
104	14–10	8.9	56	10–9	4.8	8	7–1	2.1
103	14–9	8.8	55	10–8	4.7	7	7–0	2.1

4. Directions for Computing Scores. To find the pupil's score, insert a pencil between the two sheets of the Answer Booklet and break the seal at the bottom, at the top, and at the right edge of the Answer Booklet. The questions which have been correctly marked are those for which the cross is **inside** the geometric figure on the inner pages. To get the score on the Vocabulary Test, count the number of squares in which crosses appear, omitting those which are encircled. The score on the different parts of the Paragraph Test should be obtained separately. First count all of the squares (A) in which crosses appear and indicate that number. Then count the crosses in the circles (B); and finally count the triangles (C) in which crosses are marked. Enter each of these scores on the front page of the Answer Booklet, in the space provided.

5. Application of the Results. The teacher should note carefully the score made by each pupil on each section of the test. If the score on all parts is much below the norms as indicated on Table II, steps should be taken to effect an improvement. While no attempt is here to suggest the various methods by which improvement can b cured, it may be said that the chief necessity is that of securi abiding interest in reading. Frequently this can be accomplishe making available a large amount of relatively easy material de with matters within the range of the child's interest.

If a child has a very limited vocabulary as revealed by a very score on this section of the test, the cause is often, though by no n always, found in low intelligence. Since an understanding of wo essential to good paragraph or sentence reading, a knowledge of v ulary is very important. Dictionary drills, word games, picture-matching exercises, etc., often produce good results. Too much a tion to the mastery of isolated words is not desired, however, sinc pupil should understand that the ability to read sentences and graphs is of chief importance.

A very low score on Section A indicates a deficiency in graspin general significance of materials read. Abundant reading mat such as may be found in newspapers, magazines, and stories of va types should be supplied, together with questions about the ge thought of the material read. Paragraphs or articles in which ce irrelevant statements occur may be used to advantage. Ask pup read these selections and to indicate which statements are not ne

A very low score on Section B indicates that the pupil is very ina tive to details and suggests that more attention should be giv having the pupil answer questions about the more minute deta the materials. Such reading materials as the McCall-Crabbs Lessons in Reading (Published by the Bureau of Publications, Tea College, Columbia University) have been suggested by Gates as he in remedying this type of reading deficiency.

A low score on Section C indicates inability to predict outc es from the situation given. A very low score on this section often ut not always, accompanies a low score on Section A. Ability to u r-stand the general significance of materials read is essential to a p-preciation of probable outcomes. Yet not all pupils who succeed th questions of a type required for success in Section A are able to pe with the questions of Section C. For this type of deficiency the te er may stop the pupil after he has read part way through an articl nd ask him to speculate on the probable outcome. Paragraphs simi to those used in the test may be devised by the teacher.

For a more detailed discussion of devices and materials used i he improvement of reading, the reader is referred to the following:

- Brueckner, L. J., and Melby, E. O. — Diagnostic and Ren ial Teaching
  Houghton Mifflin Company, 1931
- Gates, Arthur I. — Improvement of Reading: A Progra of Diagnostic and Remedial Methods
  The Macmillan Company, 1935
- Hildreth, Gertrude — Learning the Three R's
  Educational Publishers, 1936
- McKee, Paul — Reading and Literature in the Elementary S ool
  Houghton Mifflin Company, 1934
- Nelson, M. J. — Tests and Measurements in Elementary E ca-tion
  The Cordon Company, 1939
- Pennell, M. E., and Cusack, A. M. — The Teaching of Re ing for Better Living
  Houghton Mifflin Company, 1935

6. Acknowledgments. The author wishes to acknowledge l in-debtedness to a large number of classroom teachers and superinte nts who have co-operated in the administration of these tests whil ey were in the various experimental stages. Special mention is d the following: Mr. H. L. Ronnei, Supervising Principal, Valhalla, ew York; Miss Violet Fuller, Director of Research, Pueblo, Col do; Superintendent J. A. Lien, Jewell, Iowa; Principal Hugh Steele, W ter-set, Iowa; Superintendent H. O. Dohlen, Opheim, Montana; d a large number of the author's former students now teaching in v ous sections of the United States.

Acknowledgment is also made of the help received from the w ngs of Professor Arthur I. Gates of Teachers College, Columbia Univ ity, one of the foremost authorities on reading.

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Vocabulary and Paragraph

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DIRECTIONS FOR ADMINISTERING

Directions for Administering. It is recommended that the examiner work through the entire test before administering it to the pupils, since some of the techniques differ from those used in most tests.

See that each pupil is supplied with two well-sharpened pencils. Have desks cleared of all other materials, then say: **"We are to have a new kind of test which I am sure you all will like. The test has two booklets. This is the Answer Booklet and this is the Test Folder.** (Exhibit each.) **We shall now give you the Answer Booklets.** ***Be sure that you do not open this Answer Booklet at any time.*****"**

When the Answer Booklets have been distributed, have the pupils fill in the blanks at the side. Have the pupils fill in only those blanks calling for information that the school desires.

When this has been done, say: **"We shall now give you the Test Folders. Do not open them until you are told to do so."**

When all are supplied, say: **"Now put your Test Folder on top of your Answer Booklet so that Sample Exercise Number 1 comes just before the row of squares which has a '1' before it, like this."** (Indicate.)

See that each pupil adjusts the booklets properly, then say: **"Now read the first Sample Exercise."** (These samples and directions appear on the Test Folder and are reproduced here.)

1. John is the name of a: 1 school, 2 girl, 3 river, 4 boy, 5 flower.............. 1
   "Which word tells the answer?" (Let pupils give the answer.) **"What is the number of this word? 'John' is the name of a 'boy,' so 'boy' is the answer. The number of this word is '4.' To show that you think 'boy' is the answer, make a mark like this 'X' in the square that has '4' in it. Read the next two questions and mark your answer in the same way."**

2. Bread is something to: 1 wear, 2 play with, 3 write on, 4 eat, 5 work with... 2
   "What is the right answer?" Wait for the correct answer, then say: **"Yes. Bread is something to eat, so put a mark in the square which has a '4' in it, because '4' is the number just before the word 'eat.'"**

3. A dog is: 1 a rock, 2 a plant, 3 a tool, 4 a person, 5 an animal.............. 3
   "What is the right answer?" Wait for the correct answer, then say: **"Yes. A dog is an animal, so put a mark in the square which has a '5' in it, because '5' is the number just before 'an animal.'"**

"If you find that you have made a mistake and marked in the wrong square, do not erase, but simply draw a circle around the wrong answer and mark in the right square." (In order that these directions be observed, it is well to have the pupils put aside erasers.)

"Now turn over the page and fold the page back like this. (Indicate.) **Put your Test Folder on top of your Answer Booklet so that the numbers at the right are beside the numbers in the column headed 'For Page 1.'"**

See that pupils have booklets adjusted properly, then say: **"Do all of these exercises like the samples. When you have finished page 1, turn over the page to page 2 and move your Test Folder over to the column headed 'For Page 2.' Do the same for page 3. Do as many as you can before I say 'Stop.' You may begin."**

The examiner will see that no pupil stops at the bottom of the first page. Assistance should be given where necessary in adjusting the second and third pages to the Answer Booklet.

Exactly ten minutes after the signal to begin is given, say: **"Stop. Now turn over the Answer Booklet like this.** (Indicate.) **Do not open the booklet. Close your Test Folder and turn it over so that the last page where it says 'Paragraph Test — Sample Exercise' is on top and right side up. Place the Test Folder on top of the Answer Booklet so that the letter 'A' on the right comes alongside of the 'A' which is just before the first row of squares."**

Examiner will see that the pupils have booklets adjusted properly to the squares for the sample exercise; then read the sample paragraph aloud and have pupils answer the questions following the sample exercise as they did in the vocabulary test.

When these have been answered, say: **"Now turn over the page. Fold the page back. Place your Test Folder on the Answer Booklet so that the letters at the right will be beside the same letters in the column headed 'For Page 4.' Do them all like the samples. When you have finished with page 4, go on to pages 5, 6, 7, and 8 and do as many as you have time for until I say 'Stop.' Begin."**

Exactly twenty minutes after the signal to begin is given, say: **"Stop. Put the Answer Booklet inside of the Test Folder and pass both booklets to the front."**

HOUGHTON MIFFLIN COMPANY

THE CLAPP-YOUNG SELF-MARKING TESTS

Patented March 19, 1929. Also Licensed under U.S. Patent 1,586,628

Edited by Frank L. Clapp, Professor of Education, University of Wisconsin

THE NELSON SILENT READING TEST

Vocabulary and Paragraph

For Grades 3 to 9 — Form A

By M. J. Nelson, Ph.D., Dean of the Faculty, Iowa State Teachers College, Cedar Falls, Iowa

To be used with a special Answer Booklet

SAMPLE EXERCISES

John is the name of a 1 school, 2 girl, 3 river, 4 boy, 5 flower.. 1

Note: Which word tells the answer? What is the number of this word? "John" is the name of a "boy,"—so "boy" is the answer. The number of this word is "4." To show that you think "boy" is the answer, make a mark like this x in the square that has "4" in it. Read the next two questions and mark your answer in the same way.

Bread is something to 1 wear, 2 play with, 3 write on, 4 eat, 5 work with.................................. 2

A dog is 1 a rock, 2 a plant, 3 a tool, 4 a person, 5 an animal.. 3

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PARAGRAPH TEST (Continued)

21. The author of a recent article concerning the celebrated race between the hare and the tortoise insists that the tortoise won the race because of the slogan, "Hard shell and hard living," which the friends of the tortoise adopted as their battle cry, and not because of any superiority of the tortoise himself. He then goes on to explain that the reason this version of the story is not widely known is that very few of those who witnessed the race survived the great forest fire which occurred shortly after. It came up suddenly one night when there was a strong wind. The hare and the tortoise and a very few of the beasts saw it from a great distance from a high, bare hill at the edge of the forest, and they hurriedly called a meeting to decide what messenger they should send to warn the beasts in the forest. It was finally decided to send the tortoise.

C. What do you think happened? 1 the tortois warned all the beasts, 2 the tortoise went t sleep, 3 the animals were all saved, 4 the tortois moved so slowly that he could not warn many the beasts........................

B. Where were the hare and the tortoise when the saw the fire? 1 racing, 2 in the forest, 3 on high hill, 4 at a battle....................

A. What did the writer think about the tortoise 1 that he is a poor messenger, 2 that he is ver swift, 3 that he is very careful, 4 that he run faster than the hare....................

22. Wilbur recalled the old fable that a wild beast cannot stand the gaze of the human eye, and he stood at the edge of the clearing gazing steadily at the wildcat. But the snarls only grew louder. He did not like the looks of it at all. On the other hand, he had not the slightest intention of going back to camp without water. Wilbur advanced into the clearing, deciding that, whether the creature moved or not, he would now be so near that he couldn't miss her with the revolver. When he was very close, she snarled more fiercely and crouched ready to spring.

A. How did Wilbur feel? 1 alarmed, 2 happ 3 sleepy, 4 peevish....................

B. What kind of an animal did Wilbur see? 1 a lio 2 a tiger, 3 a dog, 4 a wildcat..............

C. What do you think happened next? 1 Wilbu went home, 2 Wilbur shot the wild creatur 3 Wilbur jumped from the boat, 4 Wilbur pette the cat..........................

23. The voyages of discovery by explorers from England, Spain, and Portugal gave to each of those countries valid claims to territory in the New World. In 1524, Francis I of France resolved to have his share in these discoveries and in the benefits which might result from them. "What!" said he to his courtiers, "shall the kings of Spain and Portugal divide all America between them, without suffering me to take a share as their brother? I would fain see the article in Adam's will that bequeaths that vast inheritance to them."

A. What word do you think best describes Francis I 1 generous, 2 tall, 3 covetous, 4 old........

C. What do you think Francis I did next? 1 he too the next train to Spain, 2 he sent explorers t America, 3 he helped Portugal get more lan 4 he sold his ships to England..............

B. Over what country was Francis I the rule 1 England, 2 Spain, 3 Portugal, 4 France...

24. Priest, monk, and prelate stood aghast,
As through the pageant the heathen passed.
A cross-bearer out of his saddle he flung,
Laid his hand on the pommel and into it sprung.
Loud was the shriek and deep the groan
When the holy sign on the earth was thrown!
The fierce old count unsheathed his brand,
But the calmer prelate stayed his hand.
"Let him pass free! — Heaven knows its hour —
But he must own repentance's power,
Pray and weep, and penance bear,
Ere he hold land by the Tyne and the Wear."

C. What do you think happened next? 1 th heathen rode away, 2 the count went hom 3 the prelate shot the man on horseback, 4 th priest rode into the night...................

B. What word tells how the count felt about th man's actions? 1 friendly, 2 angry, 3 amuse 4 overjoyed..........................

A. Why were those assembled so horrified? 1 be cause the man struck the count, 2 because th man rode away, 3 because the count drew h sword, 4 because the man acted so irreverentl

25. Durovitch had a very strange sort of eccentricity: he was disinclined to recapitulate any incident he had formerly related. If asked to do so, he would interpolate so as to make the original impossible of recognition. Yet so garrulous was he that on more than one occasion did he take so little cognizance of the words which flowed over his tongue in his efforts to regale his select coterie, that his hearers were able to worm from him essential repetitions. Such was the case one bitter winter evening when, recovering from an inordinate carousal, the village jokesmith was desirous of hearing a tale which Durovitch, himself a bit befuddled, had once produced out of his copious stock. Durovitch fixated the most timid of his hearers with that ghoulish gaze, which one who would be regaled must learn to forbear, and the assembled company knew that the jokesmith had met with success.

B. What kind of evening was it? 1 sultry, 2 col 3 warm, 4 rainy..........................

A. What kind of man was Durovitch? 1 timi 2 quarrelsome, 3 wicked, 4 talkative........

C. What do you think happened next? 1 Durovit went home, 2 Durovitch told a new story, 3 th jokesmith made every one laugh, 4 Durovit repeated a story he had told before..........

End of all the tests. Wait for directions.

VOCABULARY TEST

1. Gray is the name of a 1 fruit, 2 color, 3 house, 4 rock, 5 sign.................. 1
2. Most dogs can 1 fly, 2 bark, 3 talk, 4 shoot, 5 sew............................ 2
3. A rabbit is an 1 apple, 2 oak, 3 office, 4 animal, 5 orange.................... 3
4. June is the name of a 1 day, 2 week, 3 year, 4 month, 5 boy.................. 4
5. Silk is something to 1 wear, 2 eat, 3 sing, 4 burn, 5 fish........................ 5
6. Speakers often stand upon the 1 zone, 2 roof, 3 trunk, 4 beach, 5 stage......... 6
7. Fuel is something to 1 burn, 2 reduce, 3 sew, 4 strike, 5 serve................. 7
8. Men often eat 1 spoons, 2 ants, 3 eggs, 4 miles, 5 stain......................... 8
9. One sometimes sits on a 1 bench, 2 shade, 3 file, 4 belt, 5 soda.................. 9
10. A banker often works with 1 stages, 2 boards, 3 checks, 4 saws, 5 lead.......... 10

11. One may lie down on a 1 drill, 2 tear, 3 pencil, 4 top, 5 sofa................... 11
12. A garment is to 1 watch, 2 wear, 3 carry, 4 trace, 5 learn....................... 12
13. A season is a part of a 1 bridge, 2 dairy, 3 sentence, 4 surface, 5 year........... 13
14. To roar means to make a 1 mistake, 2 boat, 3 hook, 4 noise, 5 meal............ 14
15. A gift is a 1 need, 2 list, 3 trade, 4 present, 5 pound.......................... 15
16. To dread is to 1 begin, 2 remove, 3 scratch, 4 fear, 5 fail....................... 16
17. An expert does his work 1 badly, 2 noisily, 3 poorly, 4 well, 5 seldom........... 17
18. A mighty person is 1 small, 2 weak, 3 lame, 4 strong, 5 simple................. 18
19. A hare is a small 1 chest, 2 shipment, 3 animal, 4 pitcher, 5 base.............. 19
20. A colt is kept in the 1 cradle, 2 shadow, 3 post-office, 4 stable, 5 factory........ 20

21. One often spends a vacation at the 1 office, 2 temple, 3 corner, 4 court, 5 beach. 21
22. Workers receive 1 launches, 2 ships, 3 hospitals, 4 wages, 5 levels.............. 22
23. The officer wore a 1 chain, 2 uniform, 3 bracelet, 4 blouse, 5 sash.............. 23
24. A ranch is a large 1 garden, 2 farm, 3 roll, 4 tool, 5 circus...................... 24
25. Scarlet is the name of a 1 sense, 2 manufacturer, 3 color, 4 treasure, 5 food..... 25
26. A boss is a 1 player, 2 pearl, 3 brute, 4 rule, 5 master.......................... 26
27. To blush means to turn 1 white, 2 around, 3 dead, 4 sick, 5 red................. 27
28. The sleet made the pavement 1 wide, 2 secure, 3 crowded, 4 slippery 5 delightful 28
29. To charm means to 1 lean, 2 bruise, 3 delight, 4 earn, 5 lack.................... 29
30. A calm person is 1 rough, 2 quiet, 3 jealous, 4 strict, 5 prompt................. 30

31. A model is a 1 dairy, 2 strike, 3 pattern, 4 reply, 5 chum....................... 31
32. To recover means to 1 turn, 2 lead, 3 press, 4 inspect, 5 regain................ 32
33. Granite is a kind of 1 partner, 2 flower, 3 league, 4 rock, 5 route.............. 33
34. A wrap is used to 1 strike, 2 instruct, 3 taste, 4 wear, 5 select................ 34

Go right on with the next page.

PARAGRAPH TEST (Continued)

17. After the furious storm of the night before, the day had cleared and the sun shone upon a fresh world. Tom and Jack, laden with dripping willow branches, hurried along through the wet meadow to the little creek in its center. Today the creek was swollen from the recent rain and it gurgled along over the rocks and had nearly covered the stepping stones which had at one time projected about two feet from the water. Tom tried to cross, but as the stones were wet and smooth, he slipped and fell in. Of course, the water was not deep enough to do him any harm, but as the current was swift, he called to the much excited Jack for help.

B. What word describes the condition of the trees and grass? 1 wet, 2 dry, 3 dead, 4 yellow....

C. What do you think Jack did next? 1 he threw a stone to Tom, 2 he took off his rubbers, 3 he reached a willow branch to Tom and pulled him to shore, 4 he pulled the boat ashore.........

A. Which word tells how Tom felt? 1 angry, 2 happy, 3 frightened, 4 enthusiastic........

18. The night was an inky blackness and Joe Thomas was able to find his way only by flashes of light furnished by exploding bombs and shells. Joe was hastening to the spot from which had just come the anguished cry of his wounded comrade, Harry. Though his own leg was pierced and he was in no condition to care for himself, much less to care for his stricken comrade, he pressed forward, crawling by fits and starts as each new flare made it possible for him to find his way. Joe and Harry had been friends in their home town and the dangers of war had served to draw them closer together. It would never do for Joe to let Harry stay there alone now. Just a few more feet and he would be at his side. He called to him, for he was within speaking distance, and told him to wait for just a few minutes.

B. Who was Harry? 1 Joe's enemy, 2 a German, 3 a spy, 4 Joe's friend........................

A. What was going on in the story? 1 a battle, 2 a picnic, 3 a storm, 4 a play..................

C. What do you think happened next? 1 Joe bound Harry's wounds, 2 Joe went to sleep, 3 Harry sent Joe away, 4 Harry went home..........

19. I was sitting on the edge of the bed, loosening the heel of one of my rubber boots with the toe of the other preparatory to an early retirement, when suddenly through the darkness and stillness of the sleeping town, from the power-house half a mile away came a low and rising note — the great siren whistle in the power-house. Almost fascinated, I listened as the great note rose higher and more shrill and died away again. One blast meant a fire in the town; two blasts, fire in the buildings at the mine; and three blasts, the most terrible of all, a disaster or trouble in the mine. Once more, after what seemed to be a long pause, the sound came again; and once more rose and died away. I did not move, but there was a sudden coldness that came over me as once more, for the third time, the deep note broke out on the quiet air.

A. Which word best describes how the writer felt? 1 angry, 2 annoyed, 3 frightened, 4 relieved..

C. What did the author probably do? 1 he kicked off his boots and prepared for bed, 2 he immediately rushed to the mine, 3 he dressed carefully and walked to the mine, 4 he inquired of his wife if the whistle were the noon whistle..........

B. What time of day was it? 1 midnight, 2 noon, 3 evening, 4 mid-afternoon.................

20. Mexico, you will remember, was built upon an island in Lake Tezcuco. There are five great lakes in the Mexican valley; four of them are fresh and the fifth, Tezcuco, is salt. All the other lakes are at a higher elevation than the salt lake, and three of them higher than the city itself, even at the present day. And so it happens that, whenever a great rain occurs, and the higher lakes are flooded, the waters rush down into Lake Tezcuco, which has no outlet, and sometimes overflow the city. The first of these deluges, of which we have any mention, occurred in the year 1446. Montezuma and the Mexicans were greatly distressed by this great flood, which rose so high that all the streets were filled and the people compelled to go about in canoes.

C. What do you suppose was done? 1 the Mexicans sold the lakes, 2 the canoes were sold, 3 a great dike was built across the lake, 4 the people dried up the lakes...........................

A. How did Montezuma feel about the flood? 1 tired, 2 glad, 3 distressed, 4 happy.......

B. How many of the lakes are higher than the city? 1 five, 2 four, 3 three, 4 one..............

Go right on with the next page.

VOCABULARY TEST (Continued)

35. Alcohol is a kind of 1 epidemic, 2 coloring, 3 liquid, 4 zero, 5 bureau 35
36. To tour is to make a 1 promise, 2 dwelling, 3 journey, 4 foundation, 5 success 36
37. To afford may mean to 1 relate, 2 furnish, 3 assure, 4 observe, 5 desire 37

38. Strict means 1 vacant, 2 severe, 3 recent, 4 homely, 5 comical 38
39. A base is at the 1 top, 2 bottom, 3 side, 4 roof, 5 capital 39
40. A mason works with 1 fruit, 2 ivory, 3 paper, 4 stone, 5 poultry 40
41. To proceed is to 1 prospect, 2 include, 3 continue, 4 destroy, 5 assist 41
42. To imagine is to have a 1 privilege, 2 license, 3 council, 4 vision, 5 schedule 42
43. Method refers to 1 facts, 2 position, 3 system, 4 justice, 5 volume 43
44. The pamphlet was made by the 1 lawyer, 2 grocery, 3 butcher, 4 publisher, 5 dentist 44
45. A suburb is a part of a 1 paragraph, 2 hospital, 3 creamery. 4 city, 5 drama 45

46. The traveler reached his 1 destination, 2 obligation, 3 comment, 4 expectation, 5 memorial 46
47. Evident means 1 frozen, 2 granted, 3 united, 4 tired, 5 plain 47
48. To investigate means to make 1 apology, 2 discount, 3 sacrifice, 4 remittance, 5 inquiry 48
49. Flannel is a kind of 1 rock, 2 cloth, 3 music, 4 dirt, 5 hardware 49
50. Rural refers to 1 kindness, 2 value, 3 defeat, 4 retail, 5 country 50
51. An exposition is a public 1 privilege, 2 exhibit, 3 obligation, 4 executive, 5 opinion 51
52. An unfortunate event is sometimes a 1 willow, 2 promenade, 3 circuit, 4 disaster, 5 sacrifice 52
53. A felon is a 1 tramp, 2 juvenile, 3 keeper, 4 follower, 5 criminal 53
54. When fruit matures it becomes 1 spoiled, 2 worse, 3 green, 4 poisoned, 5 ripe 54
55. Mental refers to the 1 program, 2 family, 3 topic, 4 mind, 5 wealth 55
56. A corporation is a business 1 guarantee, 2 obligation, 3 official, 4 organization, 5 exhibition 56

57. A client is one who consults an 1 assistant, 2 expert, 3 analysis, 4 acquaintance, 5 assembly 57
58. Juniper is a 1 fern, 2 tree, 3 vine, 4 goat, 5 weed 58
59. An ogre is a 1 fish, 2 demon, 3 deserter, 4 heathen, 5 conductor 59
60. A legal act is 1 wrong, 2 noisy, 3 lawful, 4 formal, 5 useful 60
61. An inexhaustible supply is one that cannot be 1 burned, 2 uncovered, 3 used up, 4 found, 5 opened. . 61
62. A cymbal is used in 1 gardening, 2 surgery, 3 painting, 4 sculpture, 5 music 62
63. Moderate means 1 careless, 2 assured, 3 favored, 4 limited, 5 compared 63
64. Leisure means freedom from 1 supervision, 2 requirements, 3 ambition, 4 occupation, 5 disgust 64

65. A metropolitan person is 1 city-minded, 2 cultured, 3 rural-minded, 4 severe, 5 polite 65
66. A rampart is a 1 ramrod, 2 tower, 3 ditch, 4 barrier, 5 dungeon 66

Go right on with the next page.

PARAGRAPH TEST (Continued)

12. We were received very cordially, the squaw spreading for us a buffalo robe. Soon we were surrounded by curious Indians who wished to see us. The big pipe of peace having been passed, a lively conversation followed, after which we were led to different parts of the village. Wherever we stopped, the young squaws offered us more meat and the entertainer's pipe was very frequently passed. A storm that had been threatening for several hours now began in earnest.

C. What do you think happened next? 1 we were given shelter in an empty tent, 2 we killed the Indians, 3 we threw the chief's pipe away, 4 we woke up the squaws........................

A. How did the Indians feel toward us? 1 envious, 2 jealous, 3 friendly, 4 hostile...............

B. What did the Indians give us to eat? 1 cereal, 2 corn, 3 bread, 4 meat ....

13. As he glanced up, he noticed that the stars were invisible. Then he realized that Stan had pulled on the stick and they were climbing in an effort to get above the thick banks of mist. Higher and higher they mounted, and when Jack could see the stars again, although all was a gray void below, he breathed more easily. He could now see by the stars that they were headed right, and, although he knew Stan could keep to their course by his compass, he welcomed the additional guidance of the Big Dipper. After several hours the mists suddenly cleared, the sun arose in the east, and Jack's home town appeared lying directly below them.

B. What were they doing? 1 flying, 2, sailing, 3 driving a car, 4 riding horseback............

C. What do you think they did next? 1 they landed, 2 they watched the sun come out, 3 they watched the stars, 4 they jumped in a parachute......

A. Which word tells about the boys' trip? 1 dangerous, 2 sunny, 3 cruel, 4 short...............

14. The boatmen moved slowly up the pathway, each painful, weary step bringing them nearer their destination. The boat with its huge load was a great burden and the two lines were shifted at frequent intervals from shoulder to shoulder. Despite the weariness of the group, they suddenly began to sing. The clear tones of beautiful "Volga Boatman" floated out into the air, causing those who were passing by to pause and listen. As the workers continued their song, the boat finally came to shore and the men were not slow to cast off the tow lines.

C. What do you think the boatmen did next? 1 ran about and jumped, 2 sank down to rest, 3 pushed the boat out into the river, 4 let the boat sink.

B. What word tells about the boat? 1 empty, 2 light, 3 heavy, 4 new ....

A. What word tells how the boatmen felt? 1 sorrowful, 2 excited, 3 angry, 4 tired.............

15. At a National Nominating Convention the delegates of one party get together to nominate candidates for President and Vice-President. The delegates from each state group themselves around their banner. Bands play popular airs. The sections greet party heroes with prolonged cheering. Every one is enthusiastic. There is much noise and agitation pervading the entire crowd. At some time during the meeting a ballot is taken to see which of those nominated is to be the presidential candidate of that party. Sometimes no person receives enough votes in the first ballot to be elected as candidate.

C. What do you suppose happens next? 1 the meeting is adjourned, 2 the members have a good time, 3 a new ballot is taken, 4 every one goes home..................................

B. What is the purpose of the National Nominating Convention? 1 elect President and Vice-President, 2 select representatives, 3 elect electors, 4 nominate candidates for President and Vice-President.................................

A. What is the general feeling among the delegates? 1 laziness, 2 excitement, 3 sorrow, 4 disgust..

16. Smith, first witness for the state, testified that while he was driving at twenty-five miles per hour the defendant passed him like a flash, on the wrong side of the street. He was so surprised that he watched the car until it collided with another at a crossing two blocks ahead, and turned over. Patrolman Jones, for the state, testified that when he arrived, there was trace of a broken bottle in the wrecked car and a strong smell of alcohol about the defendant, who was unconscious. Perry, driver of the other wrecked car, testified that on seeing the defendant approach, he had drawn over to the curb but could not avoid the swaying car of the defendant.

A. To what does the evidence point? 1 defendant was within the law, 2 defendant was driving while intoxicated, 3 defendant was a happy-go-lucky fellow, 4 defendant was suffering from rheumatism...............................

B. Who was driving the car wrecked by the defendant? 1 Smith, 2 Perry, 3 Brown, 4 Jones....

C. Barring other evidence, what probably resulted? 1 case was thrown out of court, 2 defendant was sentenced for driving while under the influence of liquor, 3 case was postponed at defendant's request, 4 the defendant was acquitted.......

Go right on with the next page.

VOCABULARY TEST (Continued)

67. The turret of a ship is its 1 tower, 2 range, 3 sails, 4 stem, 5 prow........ 67
68. To mangle is to 1 mend, 2 mix, 3 crush, 4 disdain, 5 weave........ 68
69. Inveterate hatred is 1 unknown, 2 deep-rooted, 3 inherited, 4 brilliant, 5 sensible........ 69
70. A highly decorative work is 1 respectable, 2 elaborate, 3 impossible, 4 immense, 5 permanent........ 70
71. Essential means 1 successful, 2 necessary, 3 practical, 4 sanitary, 5 universal........ 71
72. Idolatry involves 1 worship, 2 masonry, 3 laziness, 4 thieving, 5 preaching........ 72
73. To interpose means to 1 write, 2 intrude, 3 weaken, 4 remain fixed, 5 secede........ 73

74. One who is craven is 1 cowardly, 2 insane, 3 black, 4 bird-like, 5 greedy........ 74
75. An insolent person is 1 scheming, 2 bankrupt, 3 haughty, 4 dishonest, 5 heedless........ 75
76. An arrogant person is one who is 1 haughty, 2 wealthy, 3 subdued, 4 unsuccessful, 5 arrested........ 76
77. To warrant means to 1 appreciate, 2 separate, 3 imagine, 4 deserve, 5 register........ 77
78. An epistle is a 1 specialty, 2 lantern, 3 communication, 4 sacrifice, 5 comedy........ 78
79. Graduates of an institution are called 1 semesters, 2 principals, 3 alumni, 4 chaperones, 5 socialists.. 79
80. An incompetent person is 1 young, 2 selfish, 3 unable, 4 stingy, 5 boastful........ 80
81. A cowl is generally worn by a 1 mason, 2 miner, 3 woman, 4 boy, 5 monk........ 81
82. Dissension involves 1 freedom, 2 forgiveness, 3 flight, 4 discord, 5 harmony........ 82

83. One who is discreet is 1 deceitful, 2 ambitious, 3 prudent, 4 sincere, 5 greedy........ 83
84. Preliminary is that which is 1 homelike, 2 necessary, 3 preparatory, 4 impossible, 5 satisfactory..... 84
85. An illiterate person is 1 unwary, 2 unskillful, 3 unwise, 4 unschooled, 5 unobserved........ 85
86. To consecrate is to 1 publish, 2 proclaim, 3 hallow, 4 free, 5 pardon........ 86
87. A man of perseverance is 1 low-bred, 2 yielding, 3 antagonistic, 4 trained, 5 steadfast........ 87
88. Omnipotent means 1 all-powerful, 2 intolerant, 3 forgiving, 4 all-wise, 5 harmonious........ 88
89. An ominous cloud is 1 high, 2 fleecy, 3 black, 4 threatening, 5 stationary........ 89

90. A tendril is part of a 1 game, 2 joint, 3 plant, 4 muscle, 5 tent........ 90
91. An indictment is a 1 charge, 2 statute, 3 commission, 4 warning, 5 proclamation........ 91
92. Alabaster is a variety of 1 plant, 2 rock, 3 color, 4 religious token, 5 sea-weed........ 92
93. Affluent means 1 poor, 2 abusive, 3 sincere, 4 profane, 5 abundant........ 93
94. A caustic remark is one which is 1 flattering, 2 sharp, 3 pleasing, 4 subdued, 5 inadequate........ 94
95. Sufficient means 1 practical, 2 sanitary, 3 attractive, 4 adequate, 5 profitable........ 95
96. Ecstasy generally refers to excessive 1 appetite, 2 grief, 3 joy, 4 drinking, 5 care........ 96
97. A commodious box is 1 strong, 2 watertight, 3 tricky, 4 porous, 5 roomy........ 97
98. A punctilious person is one who is 1 precise, 2 puny, 3 punished, 4 witty, 5 pugilistic........ 98
99. Forbearance is 1 disapproval, 2 vexation, 3 disgust, 4 restraint, 5 transportation........ 99
100. A scorpion is a 1 spider, 2 snake, 3 bee, 4 larva, 5 beetle........ 100

End of Vocabulary Test. Wait for directions.

PARAGRAPH TEST (Continued)

7. John threw a snowball at Warren. Warren ducked, but the snowball hit him on the shoulder and brought a laugh from the rest of the boys. Warren's face grew red as he made a snowball and threw it with all his might at John. John dodged it, but in so doing slipped and fell into a puddle of water. In a rage John got up, picked up some snow, and, as they ran, put it inside Warren's collar. Warren turned around and gave John a big shove.

A. How did the boys feel? 1 angry, 2 friendly, 3 tired, 4 ashamed.........................

B. What made John fall in the water? 1 Warren pushed him, 2 he threw so hard that he fell down, 3 he fell trying to dodge a snowball, 4 he slipped purposely.........................

C. What do you think happened next? 1 the boys walked home together, 2 Warren apologized to John, 3 the boys had a fight, 4 the other boys left

8. Harry, a five-year-old boy, came rushing up to his mother as she was working in the garden one summer day. She wondered what was wrong, for he seemed to be running unusually fast. As he approached her excitedly, he told her that John, his playmate, had fallen into the river about a quarter of a mile away. John had caught hold of a log that carried him to a little island in the middle of the river. Leaving Harry to care for his little sister, Harry's mother ran to the neighbors and brought Mr. Brown, who was a very good swimmer.

B. How far was the river from Harry's home? 1 two miles, 2 fifty feet, 3 one quarter mile, 4 two yards.........................

A. What did Harry want to do for John? 1 drown him, 2 save him, 3 forget him, 4 leave him on the island.........................

C. What do you think happened next? 1 Mr. Brown went down town, 2 John's father sent Harry home, 3 Mr. Brown swam out and brought John back, 4 Harry's father went swimming.........................

9. Little Bushy Squirrel was busily picking up chestnuts under the big chestnut tree. He was putting his winter supply of food away up in the top of a tall maple tree. As Bushy was running up the maple tree with his chestnuts, he noticed quite a commotion among the small forest folk over at Possum Creek. He at once hurried over to see what was the matter. Mr. and Mrs. Rabbit were crying bitterly. Their small son Jimmy had gone over to Farmer Brown's barnyard and had not come back. They were afraid he had been caught in a trap or Farmer Brown's big dog had chased him. At once a small company of forest folk was organized to talk the matter over.

C. What do you think the forest folk did next? 1 put Bushy into the trap, 2 chased Bushy Squirrel, who had killed Jimmy, 3 formed a plan to save Jimmy, 4 pulled Bushy's tail.........

B. What was Bushy doing when he noticed the excitement? 1 playing with his little sister, 2 storing chestnuts away for winter, 3 climbing the maple tree to sharpen his claws, 4 eating dinner.........................

A. What word tells how Mr. and Mrs. Rabbit felt? 1 lucky, 2 sad, 3 happy, 4 busy.............

10. John was taking a week's production of cream to town to sell it. After fastening the large can on the running-board, he started out. The road was smooth and he got along very nicely until he came to a corner about half way to town. There the rope holding the can broke, the can fell off, and the cream spilled out on the ground.

A. What caused the loss? 1 the road was too rough, 2 the rope was too weak, 3 the can was too light, 4 John drove too fast.........................

B. How far had he gone before losing the cream? 1 about a mile, 2 one-third of the way, 3 to the first schoolhouse, 4 about half of the distance.

C. What do you think happened next? 1 John went home to tell his folks, 2 John went on to the creamery, 3 a tire blew out, 4 the price of cream went up.........................

11. The two cars were badly smashed. The car from the north, according to eye-witnesses, was traveling at thirty-five or forty miles per hour just before the collision. The car from the east, while traveling at a moderate speed, almost passed the crossing before its rear wheels and seat were demolished by the bigger car.

A. What caused the accident? 1 liquor, 2 fast driving, 3 mud, 4 slippery streets..............

C. What do you think happened next? 1 the fire wagons were called, 2 school was dismissed, 3 the ambulance stayed at the hospital, 4 a crowd gathered.........................

B. Which car was the bigger? 1 the Cadillac, 2 the car from the north, 3 the slow-moving car, 4 the enclosed car.........................

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PARAGRAPH TEST

1. The sky grew darker and darker. A storm was very near. Lightning flashed. Thunder rolled. Jane was just a little girl and she was very much afraid of storms. She stood at the window looking out. "Oh, mother," she cried, "I am afraid. The rain is coming and the wind is from the west. It will rain in our west windows up-stairs."

A. Which word tells us how Jane felt? 1 happy, 2 tired, 3 afraid, 4 hungry..................

C. What do you think happened next? 1 Jane went to bed, 2 her mother got dinner, 3 Jane sang a song, 4 Jane ran up-stairs and closed the windows..............................

B. What kind of day was it? 1 sunny, 2 snowy, 3 rainy, 4 cold............................

2. Mary Ann went down town with her mother one morning to buy some things. Her mother stopped to talk to a friend. All of a sudden Mary Ann began to cry. A big dog was running right toward her. She did not like dogs. This one was very big and black. She had never seen it before.

C. What do you think happened next? 1 the dog got killed, 2 Mary Ann laughed, 3 the dog ate a bone, 4 Mary Ann's mother chased the dog away

A. What word tells how Mary Ann felt? 1 afraid, 2 tired, 3 happy, 4 sleepy..................

B. What word tells what kind of dog Mary Ann saw? 1 brown, 2 black, 3 white, 4 small.....

3. Jack tried to get the big car out of the snow-bank. The wheels were in snow to the hub. He shoveled and shoveled, put on chains, and did everything he could to get the car to move. Nothing would help. Feeling worn out, he sat down on the side of the car and shook the snow from his clothes. He did not know what to do. Soon he looked down the road and saw a man coming with a team of horses.

B. What did Jack have with him in the car? 1 a shovel, 2 a dog, 3 a team, 4 a snow-bank....

A. What word tells how Jack felt? 1 cheerful, 2 thirsty, 3 lonesome, 4 tired...............

C. What do you think happened next? 1 Jack went to sleep, 2 the man with the team pulled out the car, 3 the car ran out of gas, 4 it began to rain

4. Paul had planned on going to Uncle John's farm for a few days. But now it was raining and Uncle John could never come in all this mud with his new car! Paul was so disappointed that even playing with his dog was not fun any more. All day he sat by the window watching the rain. Toward evening he saw a tiny speck down the road. It came slowly nearer until he could see that it was a man in a wagon. It was Uncle John!

B. Where did Uncle John live? 1 in the city, 2 on a farm, 3 on a ranch, 4 in Chicago............

C. What do you think happened next? 1 Uncle John went to town, 2 Uncle John took Paul home with him, 3 Paul went to bed, 4 it stopped raining................................

A. How did Paul feel when he saw his uncle coming? 1 happy, 2 disappointed, 3 angry, 4 sad.....

5. Jack had sat all morning on the bank of the lake with his pole and line, but had caught only two small bass. When he first came to the lake a week ago, he had caught three great big perch. Suddenly he felt a big tug on his line. Jack began to pull on the line excitedly. How hard he had to pull! It must be a large fish.

A. What was Jack doing? 1 swimming, 2 fishing, 3 reading, 4 rowing a boat..................

C. What do you think happened next? 1 Jack pulled out a large fish, 2 Jack went home, 3 Jack fell out of the boat, 4 Jack cleaned his fish....

B. What kind of fish had Jack caught that day? 1 perch, 2 trout, 3 bass, 4 pickerel..........

6. Betty tossed the ball to her brother. He tried to catch it, but fell down, and the ball fell through the tangle of vines and flowers at the side of the garden. Suddenly, before the startled children could move, a little man dressed all in green popped out of the bushes and began to rage at them. "Your horrid ball has ruined my home. You must come at once to our court. We will see if nasty human children may throw their balls into a good elf's house and make him homeless."

B. How was the little man dressed? 1 in ragged clothes, 2 in a leather suit, 3 like a prince, 4 all in green...................................

C. What do you think happened next? 1 the ball rolled into a ditch, 2 the children went to lunch, 3 the children went with the little man, 4 the little man gave them the ball...............

A. What word tells how the little man felt? 1 pleased, 2 angry, 3 joyful, 4 sleepy........

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PARAGRAPH TEST

Sample Exercise

Note: Read the paragraph carefully. Then read question "A" at the right.

Paul was sitting in the big chair before the fireplace. He had finished his arithmetic and language home work before supper and was now reading the paper. After reading a while, he glanced down the column of "Locals" until he came to this one: "Joseph Grant is spending the week-end at the home of his sister, Mrs. Corson, of this city." Paul and Joseph had been great friends in the lower grades before the Grants moved to a larger city.

A. Which word tells how Paul felt after reading this news? 1 happy, 2 sad, 3 tired, 4 angry......

Note: "Happy" is the word that tells how Paul felt. To show that you think this is the right answer, make a mark like this × in the square that has "1" in it. Now read and answer the next two questions in the same way.

C. What do you think Paul did next? 1 went to a show, 2 telephoned to Joseph, 3 burned the newspaper, 4 sat up all night...............

B. What time of day was it? 1 evening, 2 noon, 3 midnight, 4 morning.....................